APPENDIX D

Part 11 of 22

Wetland Delineation Data Sheets and Site Photographs

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	ıland	Sampling Date: 2019-09-30
•			Sampling Point: wasd002s_w1
Investigator(s): AGG/OTG	Section, Township	, Range: <u>044N-003W-</u>	01
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 2			
Soil Map Unit Name: Arnheim mucky silt loam, 0			
Are climatic / hydrologic conditions on the site typical for		•	
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site ma	p snowing sampling pol	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes✓	No Is the Sam		
Hydric Soil Present? Yes <u>✓</u>	110	etland? Yes <u>√</u>	
Wetland Hydrology Present? Yes <u>✓</u>		nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a s The feature is a shrub community don		lder and winterberr	v The wetland is
located on the border of an oxbow. The			-
located on the border of an oxbow. If	ic reature is associate	,a with an optionion	ai waterbody.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; check a	ıll that apply)	Surface Soi	l Cracks (B6)
	ater-Stained Leaves (B9)	Drainage Pa	
	quatic Fauna (B13)	Moss Trim I	
	arl Deposits (B15)		Water Table (C2)
	ydrogen Sulfide Odor (C1)	Crayfish Bu	
	xidized Rhizospheres on Living I		/isible on Aerial Imagery (C9)
	resence of Reduced Iron (C4)		Stressed Plants (D1)
	ecent Iron Reduction in Tilled Sonin Muck Surface (C7)		
		Shallow Aqu	raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	ther (Explain in Remarks)	Microtopogi	
Field Observations:		I AO-Neulla	ii rest (D3)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Prese	nt? Yes ✓ No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring we	II, aerial photos, previous inspec	ions), if available:	
Remarks:			
The wetland hydrology regime is satu	rated.		

VEGETATION – Use scientific names of plants.

				Sampling Point: wasd002s_w1
Tree Stratum (Plot size:)	Absolute % Cover		t Indicator	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 4.0 (A)
2				Total Number of Dominant
3				Species Across All Strata:(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
56				, ,
7				Prevalence Index worksheet: Total % Cover of: Multiply by:
· ·	0.0			
Sapling/Shrub Stratum (Plot size: 15')				FACW species 65.0 x 2 = 130.0
1. Alnus incana	35.0	Y	FACW	FAC species x 3 =0.0
2. <u>Ilex verticillata</u>				FACU species 0.0 x 4 = 0.0
3		-		UPL species $0.0 x 5 = 0.0$ Column Totals: $80.0 (A) 145.0 (B)$
4				
5				Prevalence Index = B/A =1.8
6				Hydrophytic Vegetation Indicators:
7		-		√ 1 - Rapid Test for Hydrophytic Vegetation
	50.0	= Total Co	ver	 ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:5')				
1. Carex crinita	15.0	<u>Y</u>	OBL	data in Remarks or on a separate sheet)
2. <u>Carex intumescens</u>	10.0_	<u>Y</u>	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Onoclea sensibilis</u>	5.0	N	FACW	¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8.			·	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11 12				Woody vines – All woody vines greater than 3.28 ft in
12.	30.0		Wer	height.
Woody Vine Stratum (Plot size:30')		_ 10tai 00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
(100 a) Tille Circuitation (100 a)				
1				
1 2				Hydrophytic
1				Hydrophytic Vegetation Present? Yes ✓ No

SOIL Sampling Point: wasd002s_w1

Profile Des	cription: (Describe t	o the dep	oth needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	Depth Matrix Redox Features Inches) Color (moist) % Color (moist) % Type¹ Loc²							Toyturo	Remarks	
0-8	10YR 3/2		10YR	-	5	С	M	SIL	Prominent redox	
						<u> </u>				
Hydric Soil Histoso Histic E Black H	pipedon (A2) listic (A3)		Polyva MLF Thin D	Matrix, MS	v Surface ce (S9) (L	(S8) (LRI	ains.	² Location Indicators 2 cm I Coast 5 cm I	Prominent redox	
Stratifie Deplete Thick D Sandy I	 Hydrogen Sulfide (A4) Stratified Layers (A5) ✓ Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) 			Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)				 Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) 		
Strippe	d Matrix (S6) urface (S7) (LRR R, M	ILRA 149	B)					Very S	Shallow Dark Surface (TF12) (Explain in Remarks)	
	of hydrophytic vegetatic Layer (if observed):	ion and w	etland hydro	logy mus	t be prese	nt, unles	s disturbed	or problemati	C.	
Type:	Layor (ii oboor rou):									
Depth (ir	nches):							Hydric Soi	I Present? Yes No	
Remarks: A deplet	ed matrix was	observ	ed belo	w a da	ark surf	ace la	yer.			



wasd002s_w1_E



wasd002s_w1_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashla	and	Sampling Date: 2019-10-02
Applicant/Owner: Enbridge		State: WI	_ Sampling Point: wasd002f_w
Investigator(s): AGG/OTG			
Landform (hillslope, terrace, etc.): Depression		=	
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.	.317637 Lo	ong: -90.677684	Datum: WGS84
Soil Map Unit Name: Gogebic-Metonga-Rock outcrop cor			
Are climatic / hydrologic conditions on the site typical for this			•
Are Vegetation, Soil, or Hydrologysi			
Are Vegetation, Soil, or Hydrology na			
SUMMARY OF FINDINGS – Attach site map s	showing sampling point	locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sample		
Hydric Soil Present? Yes ✓ No	′ 	and? Yes <u>√</u>	No
Wetland Hydrology Present? Yes No		l Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a september 1 to 1 to 2 to 2 to 2 to 2 to 2 to 2 to	arate report.) ated with the Bad Riv	er The canony is	dominated by silver
maple and black ash.	ated with the Baa itiv	or. The barropy is t	dominated by silver
mapie and black don.			
HYDROLOGY			
Wetland Hydrology Indicators:		•	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all the			
	er-Stained Leaves (B9)	Drainage Pat	
	atic Fauna (B13)	Moss Trim Lir	
	Deposits (B15)		Vater Table (C2)
	ogen Sulfide Odor (C1) ized Rhizospheres on Living Roo	Crayfish Burr	· · ·
	ence of Reduced Iron (C4)		sible on Aerial Imagery (C9) ressed Plants (D1)
	ent Iron Reduction in Tilled Soils		
	Muck Surface (C7)	Shallow Aquit	
	r (Explain in Remarks)		phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	(Explain in Nomano)	FAC-Neutral	
Field Observations:			
Surface Water Present? Yes No ✓ Dep	oth (inches):		
	oth (inches):		
		Vetland Hydrology Present	t? Yes <u>√</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, a	orial photos, provinus inapostics	as) if available.	
Describe Recorded Data (Stream gauge, monitoring well, a	enai priotos, previous inspectior	is), ii avaliable.	
Remarks:			
The wetland hydrology regime is tempo	rarily flooded.		

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of plants.				Sampling Point: wasd002f_w
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Acer saccharinum	35.0	Υ	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
2. Fraxinus nigra			FACW	
3. <u>Populus balsamifera</u>				Total Number of Dominant Species Across All Strata: (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)
6.				
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
0 1 (0) 1 0 ((0) 1	00	= Total Co	over	OBL species0 x 1 =0 FACW species102 x 2 =204
Sapling/Shrub Stratum (Plot size:15')				FAC species x 2 =
1				FACU species 50 x 4 = 200
2				UPL species0 x 5 =0
3				Column Totals: (A) (B)
4				
5				Prevalence Index = B/A =2.68
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
_	0.0	= Total Co	over	
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting
1. <u>Fallopia convolvulus</u>		<u>Y</u>	<u>FACU</u>	data in Remarks or on a separate sheet)
2. <u>Carex bromoides</u>	10.0	N	<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Osmundastrum cinnamomeum</u>	10.0	N	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Dryopteris intermedia</u>	10.0	N	<u>FAC</u>	be present, unless disturbed or problematic.
5. <u>Lysimachia ciliata</u>	2.0	N	<u>FACW</u>	Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Co		height.
Mancha Vina Charles (Blat sina 201	02.0	= Total CC	ivei	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Present? Yes/ No
	0.0	= Total Co	over	
3		= Total Co	over	Vegetation Present? Yes _ ✓ No

SOIL Sampling Point: wasd002f_w

Profile Desc		escribe t	o the dep	oth needed		nent the in		or confirm	the absence	of indicators.)
(inches)	Color (r		%	Color (n		<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-18	7.5YR	3/3	85	<u>10YR</u>	3/1	15	C	_M_	SL	
						<u> </u>	-			
						<u> </u>				
								· <u></u>		
-						-	1			
							-			
									-	
						-		· 		
							•			
							-			
¹ Type: C=C Hydric Soil			etion, RM	=Reduced N	//atrix, MS	S=Masked	Sand Gr	ains.		: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
Histoso				Polyva	lue Belov	w Surface	(S8) (LR I	R R,		fuck (A10) (LRR K, L, MLRA 149B)
Histic E	pipedon (A2)		MLF	RA 149B))			Coast I	Prairie Redox (A16) (LRR K, L, R)
	listic (A3) en Sulfide (A	(4)				ace (S9) (L ⁄lineral (F1		LRA 149B) (. L)		flucky Peat or Peat (S3) (LRR K, L, R) urface (S7) (LRR K, L)
Stratifie	d Layers (A	5)		Loamy	Gleyed	Matrix (F2)		-, -,	Polyva	lue Below Surface (S8) (LRR K, L)
	ed Below Dar		e (A11)		ed Matrix	(F3) rface (F6)				ark Surface (S9) (LRR K, L)
	ark Surface Mucky Miner	. ,				Surface (F6)	7)			anganese Masses (F12) (LRR K, L, R) ont Floodplain Soils (F19) (MLRA 149B)
Sandy 0	Gleyed Matri					sions (F8)			Mesic :	Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) d Matrix (S6)	١								arent Material (F21) hallow Dark Surface (TF12)
	urface (S7) (ILRA 149	B)						Explain in Remarks)
		_	ion and w	etland hydro	logy mus	st be prese	nt, unles	s disturbed	or problematic	·.
Restrictive Type:	Layer (if ob	served):								
	nches):								Hydric Soil	Present? Yes _ ✓ No
Remarks:										
A reddis	h loam v	vith Ma	angane	ese cond	centrat	tions w	as obs	served.		



wasd002f_w_E



wasd002f_w_N

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): AGG/OTG		
File #: wasd002	Date of visit(s): 09/30/2019		
Location: PLSS: 044N-003W-01	Ecological Landsca North Central Forest	pe:	
Lat: 46.319683 Long: -90.678568 County: Ashland Town/City/Village: Morse town	Watershed: LS14, Upper Bad River		
SITE DESCRIPTION			
Soils: Mapped Type(s): W Water, 5A Arnheim mucky silt loam, 6A Moquah fine sandy loam, 809D Gogebic-Metonga-Rock outcrop complex Field Verified:	WWI Class: T3K, T3/S3H, T3/S3K Wetland Type(s): PFO/PSS complex - Floodplain Forest/Alder Thicket		
The soil series was not verified. In the forested component soils were a reddish sandy loam with Manganese concentrations, and in the shrub component soils were a silty loam over very fine sandy loam.	Vegetation:	Wetland Area Impacted 3.31	
Hydrology: The wetland hydrology regime is temporarily flooded in the forested portion and saturated in the shrub portion. The feature is associated with an open waterbody, a perennial river (Bad River), and an ephemeral stream.	Plant Community Description(s): The floodplain forest component is dominated by black ash and silver maple, and the alder thicket component is dominated by speckled alder.		

SIT	E MAP	 	 	

SECTION 1: Functional Value Assessment

HU Y/N Potential Human Use Values: recreation, culture, education, science, natural scenic beauty 1				Functional Value Assessment
2 N N Used for educational or scientific purposes 3 Y Y V Susually or physically accessible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 Y Y Used the Common of	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
3	2	N	N	Used for educational or scientific purposes
A	3	Υ	Υ	
S	4		N	
Section Sec				
6	5	Υ	Y	
In or adjacent to archaeological or cultural resource site Wildlifer Habitat	6	N	NI	
Wildlife Habitat		IN	IN	
1 Y Y Wetland and contiguous habitat >10 acres 2 Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer − natural land cover >50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y J Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 8 N Y Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 Y Y Potential for errosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows — if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Dense, persistent vegetation 4 Y Y Point or non-point source inflow Water levels or high flows — if no, not applicable 7 N N N Within a watershed with ≤10% wetland 8 N N N Impervious surfaces cover >10% of land surface within the watershed 9 Y Y Point or non-point source inflow Water Quetted or constricted outlet, has through-flow or is adjacent to a stream 1 Y Y Point or non-point source inflow Water Quetted watershed with ≤10% wetland 8 N N N Wetland to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quetted watershed with ≤10% wetland associated with a lake o				
2		V	V	
3				
4 Y Y 100 m buffer – natural land cover > 50%(south) 75% (north) intact 5 N N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FAA Fish and Aquatic Life Habitat 11 Y Y Wetland is connected or contiguous with perennial stream or lake 12 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 13 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 14 Y Y Vegetation is inundated in spring 15 Shoreline Protection 16 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 17 Y Densely rooted emergent or woody vegetation 18 Y Y Densely rooted emergent or woody vegetation 19 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 20 Y Y Water flow through wetland is NOT channelized 31 Y Y Dense, persistent vegetation 41 Y Y Evidence of flashy hydrology 42 Y Y Water flow through wetland is NOT channelized 43 Y Y Dense, persistent vegetation 44 Y Y Evidence of flashy hydrology 45 Y Y Point or non-point source inflow 46 N N Impervious surfaces cover >10% of land surface within the watershed 77 N N Within a watershed with <10% wetland 88 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event 89 Y Y Dense, persistent vegetation 60 N N Impervious surfaces over >10% of land surface within he watershed 61 N N Stormw			_	
5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed muditats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring 5P Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (21 acre) - if no, not applicable 2 Y Y Densell roted emergent or woody vegetation 3 Y Y Densely rooted emergent or woody vegetation 5T Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 Y Y Evidence of flashy hydrology 5 Y Y Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N N Within a watershed with <210% wetland 8 N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 9 N N N Stormwater or surface water from agricultural land is major hydrology source 1 Y Y Dense, persistent vegetation 1 Y Y Pointer on popint source water from agricultural land is major hydrology source 9 N N N Stormwater or surface water from agricultural land is major hydrology source 1 N N Stormwater or surface water from agricultural				
Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex.etc.) Record Variable Vari	\vdash		_	
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans				Occurs in a Joint Venture priority township
N	6	Y	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
8 N Y Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudifats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 Y Y Water levels or high flows - if no, not applicable or applicable or high flows - if no, not applicable or applicable or high flows - if no, not applicable or applicable or stream and round or open water area (≥1 acre) - if no, not applicable or y V Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 3 Y Y Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 Y Y Evidence of flashy hydrology 5 Y Y Point or non-point source inflow 6 N N Impervious surfaces cover > 10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event water water water water water water and floodwater based on previous section 1 Y Y Posindes substantial storage of storm and floodwater based on previous section 2 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Sign	7	N		
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Section 1 Comments (Refer to Section 1 numbers) HU-5: The wetland located partially in this RED FLAG area due to its presence around the banks of the Bad River WH-6: The wetland is a PFO/PSS/PUB complex FA-2: Associated with an old oxbow of the Bad River that has become an open waterbody, thus providing good aquatic habitat ST-4: Floodplain hydrology ST-5: The wetland obtains runoff from the adjacent railroad track and the road located to the North

Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
Υ	Υ	Amphibians Reptiles
	Υ	Reptiles
	Υ	Birds
	Υ	Deer/mammals
	l	

Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
	Υ	Aquatic invertebrates
	Υ	Fish (Bad River)

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Traine Community intogrity (Circle)								
	Low	Medium	High	Exceptional					
Invasive species cover	> 50%	20-50%	10-20%	<10%					
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented					
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)					
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare					
FQI (optional)	<13	13-23	23-32	>32					
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7					

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer saccharinum			PFO	Common
Fraxinus nigra			PFO	Common
Populus balsamifera			PFO	Common
Fallopia convolvulus			PFO	Abundant
Carex bromoides			PFO	Common
Osmundastrum cinnamomeum			PFO	Common
Dryopteris intermedia			PFO	Common
Lysimachia ciliata			PFO	Uncommon
Alnus incana			PSS	Common
llex verticillata			PSS	Common
Carex crinita			PSS	Common
Carex intumescens			PSS	Common
Onoclea sensibilis			PSS	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The flora of the wetland is of moderately diversity. The non-native Fallopia convolvulus is very common in the herbaceous layer of the floodplain forest component, but otherwise non-native cover is somewhat low.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		M	С	Point source or stormwater discharge
	Х		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		Н	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
X	Х		M	С	Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
Х	Х	Х	М	С	Removal of tree or shrub strata – logging,
^	^	^	IVI	C	unprescribed fire
					Human trails – unpaved
					Human trails – paved
X	Χ		M	С	Removal of large woody debris
X	Χ		Н	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The shrub component was recently logged. The associated open waterbody is an old oxbow of the Bad River that
was cut off by a railroad track. The feature is also cut off from another feature to the North by a county highway, and
experiences some runoff from the railroad track and road.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE							
	Low	Medium	High	Exceptional	NA			
Floristic Integrity		✓						
Human Use Values	√							
Wildlife Habitat			√					
Fish and Aquatic Life Habitat		✓						
Shoreline Protection			√					
Flood and Stormwater Storage			√					
Water Quality Protection			√					
Groundwater Processes		√						

FUNCTION	RATIONALE
Floristic Integrity	The feature is dominated by typical species for the area. Some invasive cover is present and the area has been recently logged.
Human Use Values	Visible from a county highway. Potential for hunting.
Wildlife Habitat	Good diversity of habitat types provides habitat for a variety of animals.
Fish and Aquatic Life Habitat	Bad River oxbows that contain standing water.
Shoreline Protection	Associated with open waterbodies and streams (notably the Bad River).
Flood and Stormwater Storage	Oxbow storing high amounts of water.
Water Quality Protection	Dense vegetation helps to filter water, may protect against erosion.
Groundwater Processes	Groundwater recharge and some floodplain hydrology and discharge to surface water.

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-09-30
•			
Investigator(s): AGG/OTG	Section, Township	o, Range: <u>044N-003W-</u>	01
Landform (hillslope, terrace, etc.): Crest			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Gogebic-Metonga-Rock out			
Are climatic / hydrologic conditions on the site typical			
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _	-		
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sam	npled Area	
		/etland? Yes	No <u>√</u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or The upland sample point is locate		atod by guaking aer	oon
	d iii a logged area domiii	ateu by quaking asp	Jen.
HYDROLOGY			
Wetland Hydrology Indicators:		•	ators (minimum of two required)
Primary Indicators (minimum of one is required; ch	****		
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)	· · · · · · · · · · · · · · · · · · ·	Water Table (C2)
	Hydrogen Sulfide Odor (C1)Oxidized Rhizospheres on Living	Crayfish Bu	/isible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled S		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		Il Test (D5)
Field Observations:			1 1001 (50)
Surface Water Present? Yes No	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No✓_
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring)	na well perial photos previous inspec	tions) if available:	
Describe Recorded Data (Stream gauge, monitorii	ig well, aeriai priotos, previous irispet	ilolis), il avallable.	
Remarks:			
No wetland hydrology indicators v	vere observed.		
I .			

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of plants.				Sampling Point: wasd002s_u1
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Populus tremuloides	30.0	Y	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
34				Species Across All Strata: 3.0 (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3333333333333333333333333333333333
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
0 1 (0) 1 0 1 (0) 1 (0)	_30.0	= Total Co	ver	OBL species 0.0 x 1 = 0.0 FACW species 0.0 x 2 = 0.0
Sapling/Shrub Stratum (Plot size: 15') 1. Corylus cornuta	50.0	٧	ΕΔCII	FAC species 30.0 x3 = 90.0
2				FACU species <u>60.0</u> x 4 = <u>240.0</u>
3.				UPL species $0.0 \times 5 = 0.0$
4				Column Totals: 90.0 (A) 330.0 (B)
5				Prevalence Index = B/A =3.7
6	<u> </u>			Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
5	50.0	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') 1. Pteridium aquilinum	10.0	Υ	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2				Problematic Hydrophytic Vegetation¹ (Explain)
3				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	10.0	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2				Hydronhydia
4				Hydrophytic Vegetation
		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate s The area is dominated by quaking aspe		eaked	hazelnu	t.

SOIL Sampling Point: wasd002s_u1

Profile Desc	cription: (Describe	to the dep	th needed to docum	ent the i	ndicator	or confirm	the absence of indicators.)		
Depth (inches)	Matrix Color (moist)	%	Color (moist)	Features	Type ¹	Loc ²	Texture Remarks		
0-10	10YR 3/2	100	Color (moist)	70	Туро		SCL	_	
	10YR 4/3						SCL	_	
10-20	10111 -1/0	100						-	
								-	
		· ———					·	-	
		·						-	
							·	-	
								_	
		·						_	
								_	
								_	
-						·		-	
1Tupo: C-C	oncentration, D=Depl	lotion PM	- Poduood Motriy, MS		L Cond Cr		² Location: PL=Pore Lining, M=Matrix.	-	
Hydric Soil		ietion, Kivi	Reduced Matrix, MS	=iviasked	i Sariu Gr	aii i5.	Indicators for Problematic Hydric Soils ³ :		
Histosol	` '		Polyvalue Below	/ Surface	(S8) (LR	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B)		
	oipedon (A2) stic (A3)		MLRA 149B)	co (SO) (I	DD D MI	DA 1/0B)	Coast Prairie Redox (A16) (LRR K, L, R)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)		
	en Sulfide (A4)		Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L)				Dark Surface (S7) (LRR K, L)		
	d Layers (A5)		Loamy Gleyed Matrix (F2)				Polyvalue Below Surface (S8) (LRR K, L)		
	d Below Dark Surface ark Surface (A12)	e (A11)	Depleted Matrix (F3) Redox Dark Surface (F6)				Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)		
	Mucky Mineral (S1)			Depleted Dark Surface (F7)			Piedmont Floodplain Soils (F19) (MLRA 149)		
	Gleyed Matrix (S4)		Redox Depressi	ons (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149E	3)	
	Redox (S5) I Matrix (S6)						Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	rface (S7) (LRR R, N	ILRA 149E	3)				Other (Explain in Remarks)		
³ Indicators o	f hydrophytic vegetat	ion and we	tland hydrology mus	t be prese	ent unless	s disturbed o	or problematic		
	Layer (if observed):		aa, a. e. e. g,ae	. 50 p. 00 c	, a				
Type:									
Depth (in	ches):						Hydric Soil Present? Yes No✓	-	
Remarks:	!! !! !!					•			
No nyari	c soil indicator	s obse	rvea.						



wasd002s_u1_NW



wasd002s_u1_SW

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-02
•			
Investigator(s): AGG/OTG	Section, Township	o, Range: <u>044N-003W-</u>	01
Landform (hillslope, terrace, etc.): Head slope			
Subregion (LRR or MLRA): Northcentral Forests La			
Soil Map Unit Name: Gogebic-Metonga-Rock outc			
Are climatic / hydrologic conditions on the site typical			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam	pled Area	
	No ✓ within a W	etland? Yes	No <u></u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or i The sample point is located within	n a separate report.)	lominated by sugar	manlo and black
cherry.	illesic ilaluwood lolesi (ioninaled by Sugar	mapie and black
cherry.			
HYDROLOGY			
Wetland Hydrology Indicators:			ators (minimum of two required)
Primary Indicators (minimum of one is required; che	• • • •		
	_ Water-Stained Leaves (B9)	Drainage Pa	
	_ Aquatic Fauna (B13)	Moss Trim L	
	_ Marl Deposits (B15) _ Hydrogen Sulfide Odor (C1)		Water Table (C2)
	_ Oxidized Rhizospheres on Living		/isible on Aerial Imagery (C9)
	_ Presence of Reduced Iron (C4)		Stressed Plants (D1)
1 - · · · · · · · -	Recent Iron Reduction in Tilled So		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	_ Other (Explain in Kemarks)	FAC-Neutra	' '
Field Observations:		I AC-Neulla	Trest (D3)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Prese	nt? Yes No✓_
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	a wall, parial photos, provious inappe	tions) if available:	
Describe Recorded Data (stream gauge, monitoring	g well, aeriai priotos, previous inspec	tions), ii available.	
Remarks:			
No wetland hydrology indicators w	ere observed.		
1			

VEGETATION – Use scientific names of plants.

VEGETATION - Use scientific names of plants.	Sampling Point: wasd002f_u			
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer saccharum				Number of Dominant Species That Are OBL, FACW, or FAC:1.0(A)
2. <u>Prunus serotina</u>	10.0	N	<u>FACU</u>	Total Number of Dominant
3				Species Across All Strata: 2.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	85.0	= Total Co	ver	OBL species 0.0 x 1 = 0.0
Sapling/Shrub Stratum (Plot size:)				FACW species 0.0 x 2 = 0.0 FAC species 5.0 x 3 = 15.0
1				FACU species <u>85.0</u> x 4 = <u>340.0</u>
2				UPL species <u>0.0</u> x 5 = <u>0.0</u>
3				Column Totals:90.0 (A)355.0 (B)
4				Prevalence Index = B/A =3.9
5				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')	0.0	- rotar co	•••	3 - Prevalence Index is ≤3.0 ¹
1. Carex pedunculata	5.0	Υ	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2.				Problematic Hydrophytic Vegetation ¹ (Explain)
3				1
4				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				Woody vines – All woody vines greater than 3.28 ft in height.
Manda Vina Christian (Distring	_ 5.0_	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2				Hydrophytic
4				Vegetation
··-		= Total Co	ver	Present? Yes No✓
Remarks: (Include photo numbers here or on a separate Ground layer is sparse with Carex pedu	sheet.)		voi	

SOIL Sampling Point: wasd002f_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indicators.)	
Depth (in all as)	Matrix	0/	Redo Color (moist)	x Features		1.2.2	Touture	
(inches)	Color (moist) 10YR 3/2	100	Color (moist)	%	Type'	Loc ²	Texture Remarks	_
3-8		100					SIC	_
8-20	10YR 4/4						SIL	_
020		100						_
								_
								_
								_
				· 				_
		-						_
		-						_
								_
				· 				_
¹ Type: C=C	concentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.	_
Hydric Soil					(20) (1.7)	_	Indicators for Problematic Hydric Soils ³ :	
Histoso Histic E	I (A1) pipedon (A2)		Polyvalue Belov MLRA 149B)		(S8) (LRI	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)	
Black H	istic (A3)		Thin Dark Surfa				5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4) d Layers (A5)		Loamy Mucky N Loamy Gleyed I			, L)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)	
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Dark Surface (S9) (LRR K, L)	
	ark Surface (A12) Mucky Mineral (S1)	•	Redox Dark Su Depleted Dark \$		·7)		Iron-Manganese Masses (F12) (LRR K, L, R Piedmont Floodplain Soils (F19) (MLRA 149)	
Sandy (Gleyed Matrix (S4)		Redox Depress		• /		Mesic Spodic (TA6) (MLRA 144A, 145, 149E	
-	Redox (S5)						Red Parent Material (F21)	
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B)				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)	
	of hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive Type:	Layer (if observed):							
	ches):						Hydric Soil Present? Yes No _ ✓	
Remarks:								
No hydri	c soil indicator	s were	observed.					



wasd002f_u_SE



wasd002f_u_SW

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: 2019-10-02
•			WI Sampling Point: wasd005f_w
Investigator(s): AGG/OTG			
Landform (hillslope, terrace, etc.): Depression		·	
Subregion (LRR or MLRA): Northcentral Forests La			
Soil Map Unit Name: Gogebic-Metonga-Rock outcr			
Are climatic / hydrologic conditions on the site typical t			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site r	nap showing sampling	g point locations, tra	nsects, important features, etc.
Hydrophytic Vegetation Present? Yes <u>✓</u>		e Sampled Area	
	No withi	n a Wetland? Ye	s/ No
		, optional Wetland Site ID:	
Remarks: (Explain alternative procedures here or in The feature is a PFO hardwood swa	a separate report.)	slack ash and valle	w hirch Paired with upland
point wasd002f_u.	amp dominated by t	nack asii aliu yelic	w birch. Faired with upland
point wasaoozi_a.			
HYDROLOGY			
Wetland Hydrology Indicators:			ary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; chec			ace Soil Cracks (B6)
	Water-Stained Leaves (B9)		nage Patterns (B10)
	Aquatic Fauna (B13)		s Trim Lines (B16)
	Marl Deposits (B15) Hydrogen Sulfide Odor (C1)		Season Water Table (C2) rfish Burrows (C8)
	Oxidized Rhizospheres on L		ration Visible on Aerial Imagery (C9)
	Presence of Reduced Iron (nation visible on Aerial imagery (C9)
_ , , ,	Recent Iron Reduction in Til	· —	morphic Position (D2)
	Thin Muck Surface (C7)	· , —	llow Aquitard (D3)
	Other (Explain in Remarks)		otopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remains)		:-Neutral Test (D5)
Field Observations:		<u> </u>	ricanar rest (20)
Surface Water Present? Yes No _ ✓	_ Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology	y Present? Yes <u>√</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	well aerial photos previous i	nspections) if available:	
Describe Necorded Data (stream gauge, monitoring	well, acrial priotos, previous i	nspections), ii available.	
Remarks:	sturated		
The wetland hydrology regime is sa	iluraleu.		

Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
FACV That Are OBL, FACW, or FAC:
FAC Total Number of Dominant Species Across All Strata: 6 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B Prevalence Index worksheet:
Species Across All Strata:
Percent of Dominant Species That Are OBL, FACW, or FAC:
That Are OBL, FACW, or FAC:
Prevalence Index worksheet:
Total % Cover of: Multiply by: OBL species 42 x1 = 42 FACW species 85 x2 = 170 FAC packed 40 x3 = 120 FACU species 0 x4 = 0 UPL species 0 x5 = 0 Column Totals: 167 (A) 332 (B) Prevalence Index = B/A = 1.99 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
PAC FACW FACW FACW FACW FACW FACW FACW FA
FAC FACW species 85
FAC FAC species 40 x 3 = 120 FACW FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 167 (A) 332 (B) Prevalence Index = B/A = 1.99 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
FACW FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 167 (A) 332 (B) Prevalence Index = B/A = 1.99 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation Y 2 - Dominance Test is >50%
DPL species
Prevalence Index = B/A = 1.99 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
Prevalence Index = B/A = 1.99 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
2 - Dominance Test is >50%
er I
4 - Morphological Adaptations ¹ (Provide supporting
OBL data in Remarks or on a separate sheet)
FACW Problematic Hydrophytic Vegetation ¹ (Explain)
FACW
FAC high present, unless disturbed or problematic.
OBL Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH
and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless
of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in
height.

1
Hydrophytic
Vegetation Present? Yes No
Vegetation

SOIL Sampling Point: wasd005f_w

Profile Des	cription: (Describe t	o the de	oth needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)		
Depth	Matrix				x Features	1	. 2	_			
(inches)	Color (moist)	<u>%</u>	Color (n			Type'	Loc ²	Texture	Remarks Drawin and raday		
0-10	10YR 4/2	95	10YR		5	<u>C</u>	_M_	01	SCL Prominent redox		
10-15	10YR 4/1	95	10YR		5	<u> </u>	_IVI_	CL	Prominent redox		
<u> 15-18</u>	10YR 5/1	90	<u>10YR</u>	5/8	_10_	<u>C</u>	_M_	CL	Prominent redox		
					-						
			-		. ——						
<u> </u>	·										
¹ Type: C=C Hydric Soil	oncentration, D=Depl	etion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :		
Histoso			Polyva	lue Belov	w Surface	(S8) (LRI	R R.		Muck (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2)		-	RA 149B)		(00) (=11	,		Prairie Redox (A16) (LRR K, L, R)		
	istic (A3) en Sulfide (A4)				ice (S9) (L ⁄lineral (F		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)		
	d Layers (A5)			-	Matrix (F2		., L)		alue Below Surface (S8) (LRR K, L)		
Deplete	d Below Dark Surface	e (A11)	Deplet	ed Matrix	(F3)			Thin [Dark Surface (S9) (LRR K, L)		
	ark Surface (A12) Mucky Mineral (S1)				rface (F6) Surface (F				Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B)		
-	Gleyed Matrix (S4)			Depress		,		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
-	Redox (S5)								Parent Material (F21)		
	d Matrix (S6) urface (S7) (LRR R, M	ILRA 149	B)						Shallow Dark Surface (TF12) (Explain in Remarks)		
	of hydrophytic vegetati	ion and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	c.		
	Layer (if observed):										
Type:	achoo).		<u> </u>					Hydric Soi	I Present? Yes No		
Remarks:	ches):							11,4110 001			
	ed matrix with	redox	was obs	erved							



wasd005f_w_E



wasd005f_w_NE

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): AGG/OTG	
File #: wasd005	Date of visit(s): 10/02/2019	
Location: PLSS: 044N-003W-01	Ecological Landsca North Central Forest	ape:
Lat: <u>46.317493</u> Long: <u>-90.677266</u> County: <u>Ashland</u> Town/City/Village: <u>Morse town</u>	Watershed: LS14, Upper Bad River	
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class: T3K	
809D Gogebic-Metonga-Rock outcrop complex Field Verified:	Wetland Type(s): PFO - Hardwood	d Swamp
Series not verified. Soils were a sandy clay loam over clay loam.	Wetland Size: 0.04	Wetland Area Impacted 0.04
	Vegetation: Plant Community D	Description(s):
Hydrology: The wetland hydrology regime is saturated.		a hardwood swamp dominated a and Betula alleghaniensis.

SITE MAP		

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	Υ	Υ	In or adjacent to RED FLAG areas
	-		List: Trout Streams: Bad River
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Υ	Υ	3 or more strata present (>10% cover)
3	Ν	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Υ	Υ	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	Ν	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N.I	\ <u>'</u>	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
1	N	Y	plans
8	Ν	Υ	Part of a large habitat block that supports area sensitive species
9	Ν	N	Ephemeral pond with water present > 45 days
10	Ν	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	Ν	N	Seasonally exposed mudflats present
12	Ν	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Ζ	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	Ζ	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Υ	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Ν	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Υ	Water flow through wetland is NOT channelized
3	Υ	Υ	Dense, persistent vegetation
4	Ν	N	Evidence of flashy hydrology
5	Ν	N	Point or non-point source inflow
6	Z	N	Impervious surfaces cover >10% of land surface within the watershed
7	Ν	N	Within a watershed with <10% wetland
8	Ν	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Z	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Y	Basin wetland or constricted outlet
3	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2			Location near a groundwater divide or a headwater wetland
3	N	N	
4	N	N	Wetland remains saturated for an extended time period with no additional water inputs
-	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: Located on private land HU-5: Fairly close to the Bad River, adjacent to but not in the Trout Stream RED FLAG area WQ-1: The wetland is of small physical size, but it a densely vegetated depression Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Birds Υ Mammals **Amphibians** Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	anty mogney (on olo)					
	Low	Medium	High	Exceptional		
Invasive species cover	> 50%	20-50%	10-20%	<10%		
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented		
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)		
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare		
FQI (optional)	<13	13-23	23-32	>32		
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7		

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Betula alleghaniensis			PFO	Common
Alnus incana			PFO	Uncommon
Glyceria striata			PFO	Common
Carex bromoides			PFO	Common
Carex intumescens			PFO	Common
Dryopteris intermedia			PFO	Uncommon
Iris versicolor			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The species are typical of a hardwood swamp plant community found in the area. Diversity is somewhat low but no invasive species were observed.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Buffer	Historic	Impact	Relative	Stressor
		revei	Trequency	Filling, berms (non-impounding)
				Drainage – tiles, ditches
				Hydrologic changes - high capacity wells,
				impounded water, increased runoff Point source or stormwater discharge
				Polluted runoff
				Pond construction
				Agriculture – row crops
				Agriculture – hay
				Agriculture – pasture
Х		L	U	Roads or railroad
				Utility corridor (above or subsurface)
				Dams, dikes or levees
				Soil subsidence, loss of soil structure
				Sediment input
				Removal of herbaceous stratum – mowing,
				grading, earthworms, etc.
	Y	NA	_	Removal of tree or shrub strata – logging,
		171	0	unprescribed fire
				Human trails – unpaved
				Human trails – paved
				Removal of large woody debris
				Cover of non-native and/or invasive species
				Residential land use
				Urban, commercial or industrial use
				Parking lot
				Golf course
				Gravel pit
				Recreational use (boating, ATVs, etc.)
				Excavation or soil grading
				Other (list below):
	X		X L	Level* Frequency** X L U

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

he feature is relatively undisturbed, with a road located on the edge of the buffer area on the other side of the	Bad
River.	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	FUNCTION SIGNIFICANCE				
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat		√			
Fish and Aquatic Life Habitat					√
Shoreline Protection					√
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes		✓			

FUNCTION	RATIONALE
Floristic Integrity	Dominated by good assemblage of native species.
Human Use Values	No visible uses.
Wildlife Habitat	Relatively undisturbed.
Fish and Aquatic Life Habitat	N/A
Shoreline Protection	N/A
Flood and Stormwater Storage	Shallow basin that allows limited recharge.
Water Quality Protection	Shallow basin that allows limited water to infiltrate.
Groundwater Processes	Recharge feature that may flood during extreme events when the Bad River overflows.

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-02		
•					
Investigator(s): AGG/OTG	Section, Township, Range: 044N-003W-01				
	Local relief (concave, convex, none): Convex Slope (%): 3-7%				
Subregion (LRR or MLRA): Northcentral Forests La					
Soil Map Unit Name: Gogebic-Metonga-Rock outci					
Are climatic / hydrologic conditions on the site typical					
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam	pled Area			
	No ✓ within a W	etland? Yes	No <u>√</u>		
		onal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a separate report.)					
The sample point is located within mesic hardwood forest dominated by sugar maple and black					
cherry.					
HYDROLOGY					
Wetland Hydrology Indicators:		·	ators (minimum of two required)		
Primary Indicators (minimum of one is required; che					
	_ Water-Stained Leaves (B9)	Drainage Pa			
	_ Aquatic Fauna (B13)	Moss Trim L			
	_ Marl Deposits (B15) _ Hydrogen Sulfide Odor (C1)	· · · · · · · · · · · · · · · · · · ·	Water Table (C2)		
	Oxidized Rhizospheres on Living	Crayfish Bui Roots (C3) Saturation V	riows (Co) /isible on Aerial Imagery (C9)		
	Presence of Reduced Iron (C4)		Stressed Plants (D1)		
1 -	Recent Iron Reduction in Tilled So		Position (D2)		
	Thin Muck Surface (C7)	Shallow Aqu			
	Other (Explain in Remarks)		aphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	_ ctror (Explain in Normano)	FAC-Neutra	' '		
Field Observations:			1 1 001 (20)		
Surface Water Present? Yes No _ ✓	Depth (inches):				
	Depth (inches):				
	Depth (inches):	Wetland Hydrology Prese	nt? Yes No <u>√</u>		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	well parial photos previous inspec	tions) if available:			
Describe Recorded Data (Stream gauge, monitoring	well, aeriai priotos, previous irispec	ilolis), ii avallable.			
Remarks:					
No wetland hydrology indicators we	ere observed.				
1					

VEGETATION – Use scientific names of plants.

VEGETATION - Use scientific names of plants.				Sampling Point: wasd002f_u
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer saccharum				Number of Dominant Species That Are OBL, FACW, or FAC:1.0(A)
2. <u>Prunus serotina</u>	10.0	N	<u>FACU</u>	Total Number of Dominant
3				Species Across All Strata: 2.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	85.0	= Total Co	ver	OBL species 0.0 x 1 = 0.0
Sapling/Shrub Stratum (Plot size:)				FACW species 0.0 x 2 = 0.0 FAC species 5.0 x 3 = 15.0
1				FACU species <u>85.0</u> x 4 = <u>340.0</u>
2				UPL species <u>0.0</u> x 5 = <u>0.0</u>
3				Column Totals:90.0 (A)355.0 (B)
4				Prevalence Index = B/A =3.9
5				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')	0.0	- rotar co	•••	3 - Prevalence Index is ≤3.0 ¹
1. Carex pedunculata	5.0	Υ	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2.				Problematic Hydrophytic Vegetation ¹ (Explain)
3				1
4				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				Woody vines – All woody vines greater than 3.28 ft in height.
Manda Vina Christian (Distring	_ 5.0_	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2				Hydrophytic
4				Vegetation
··-		= Total Co	ver	Present? Yes No✓
Remarks: (Include photo numbers here or on a separate Ground layer is sparse with Carex pedu	sheet.)		voi	

SOIL Sampling Point: wasd002f_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indicators.)	
Depth (in all as)	Matrix	0/	Redo Color (moist)	x Features		1.2.2	Touture	
(inches)	Color (moist) 10YR 3/2	100	Color (moist)	%	Type'	Loc ²	Texture Remarks	_
3-8		100					SIC	_
8-20	10YR 4/4						SIL	_
020	10111	100						_
								_
								_
								_
				· 				_
		-						_
		-						_
								_
				· 				_
¹ Type: C=C	concentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gr	ains.	² Location: PL=Pore Lining, M=Matrix.	_
Hydric Soil					(20) (1.7)	_	Indicators for Problematic Hydric Soils ³ :	
Histoso Histic E	I (A1) pipedon (A2)		Polyvalue Belov MLRA 149B)		(S8) (LRI	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)	
Black H	istic (A3)		Thin Dark Surfa				5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4) d Layers (A5)		Loamy Mucky N Loamy Gleyed I			, L)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)	
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Dark Surface (S9) (LRR K, L)	
	ark Surface (A12) Mucky Mineral (S1)	•	Redox Dark Su Depleted Dark \$		·7)		Iron-Manganese Masses (F12) (LRR K, L, R Piedmont Floodplain Soils (F19) (MLRA 149)	
Sandy (Gleyed Matrix (S4)		Redox Depress		• /		Mesic Spodic (TA6) (MLRA 144A, 145, 149E	
-	Redox (S5)						Red Parent Material (F21)	
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B)				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)	
	of hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive Type:	Layer (if observed):							
	ches):						Hydric Soil Present? Yes No _ ✓	
Remarks:								
No hydri	c soil indicator	s were	observed.					



wasd002f_u_SE



wasd002f_u_SW

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relo	cation Project	t	City/C	County: Ash	nland		Sampling D	ate: <u>2019-10-02</u>
Applicant/Owner: Enbridge	e					State: WI	Sampling	Point: wasd007s_w
Investigator(s): AGG/OTO								
Landform (hillslope, terrace, et								
Subregion (LRR or MLRA): No								
Soil Map Unit Name: Gogebio								
Are climatic / hydrologic condit								
Are Vegetation, Soil								s / No
Are Vegetation, Soil								
SUMMARY OF FINDING	3S – Attach si	te m	nap showing sam	ipling poi	nt locatio	ns, transects	, importar	it features, etc.
Hydrophytic Vegetation Pres	ent? Yes _	✓	No	Is the Sam				
Hydric Soil Present?			No	within a W	etland?	Yes <u>√</u>	No	
Wetland Hydrology Present?			No	If yes, optio	nal Wetland	Site ID:		
Remarks: (Explain alternative The feature is an algorithm)				led alder	There	is an intermi	ittent etre	am running
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	nated by speck	ilea alaei	. ITICIC	is an interm	illorit sire	an running
through the wetland	i.							
HYDROLOGY Wetland Hydrology Indicate	ore:					Socondary Indica	tore (minimu	m of two required)
Primary Indicators (minimum		chac	k all that annly)			Surface Soil		in or two required)
Surface Water (A1)	or one is required,		Water-Stained Leave			Drainage Pat		
High Water Table (A2)			Aquatic Fauna (B13)			Moss Trim Li		
Saturation (A3)			Marl Deposits (B15)			Dry-Season \		(C2)
Water Marks (B1)			Hydrogen Sulfide Ode	or (C1)		Crayfish Burr		()
Sediment Deposits (B2)			Oxidized Rhizosphere		Roots (C3)	Saturation Vi		al Imagery (C9)
Drift Deposits (B3)		_	Presence of Reduced	d Iron (C4)		Stunted or St	ressed Plant	s (D1)
Algal Mat or Crust (B4)		_	Recent Iron Reductio	n in Tilled Sc	oils (C6)	✓ Geomorphic	Position (D2)	,
Iron Deposits (B5)		_	Thin Muck Surface (C	27)		Shallow Aqui		
Inundation Visible on Ae		_	Other (Explain in Ren	narks)		Microtopogra		D4)
Sparsely Vegetated Con	cave Surface (B8)					✓ FAC-Neutral	Test (D5)	
Field Observations:		,						
Surface Water Present?			_ Depth (inches):					
Water Table Present?			Depth (inches):					
Saturation Present? (includes capillary fringe)	Yes No _	✓	_ Depth (inches):		Wetland H	lydrology Presen	t? Yes	/ No
Describe Recorded Data (str	eam gauge, monito	ring \	well, aerial photos, pre	vious inspec	tions), if ava	ilable:		
Remarks: The wetland hydrological interesting the second representation of the second representation in the second representation representation in the second representation representation representation representation representation representation representation representation representation representati	ogy rogimo is	60	turated					
The welland hydroid	ogy regime is	Sa	iuraieu.					

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants	•			Sampling Point: wasd007s_w
Tree Stratum (Plot size:30')	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. <u>Abies balsamea</u>				Number of Dominant Species That Are OBL, FACW, or FAC: 3.0 (A)
2				Total Number of Dominant Species Across All Strata: 3.0 (B)
4.				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100.0 (A/B)
6.				Prevalence Index worksheet:
7	 5.0_ =			
Sapling/Shrub Stratum (Plot size: 15')	=	= Total Co	ivei	FACW species 172.0 x 2 = 344.0
1. <u>Alnus incana</u>	90 O	~	EAC\\\	FAC species 15.0 x 3 = 45.0
			FAC	FACU species <u>0.0</u> x 4 = <u>0.0</u>
				UPL species <u>0.0</u> x 5 = <u>0.0</u>
3. <u>Populus tremuloides</u>4				Column Totals: <u>187.0</u> (A) <u>389.0</u> (B)
5				Prevalence Index = B/A =
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	100.0		ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')	10010			3 - Prevalence Index is ≤3.0¹
1. Carex bromoides	75.0	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Solidago gigantea	5.0	N	<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Equisetum pratense</u>			FACW	¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10			<u> </u>	Herb – All herbaceous (non-woody) plants, regardless
11			· ——	of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
Washing Christian (District)	82.0	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2				
				Hydrophytic Vegetation
3				
4	0.0 =			Present? Yes No

SOIL Sampling Point: wasd007s_w

Depth	Matrix			x Features				
(inches)	Color (moist)	<u> </u>	Color (moist)			oc²	Texture	Remarks
0-8	10YR 4/2		10YR 5/6	5	<u>C</u>	M	CL	Prominent redox
8-20	10YR 4/3	100_					CL	
				-				
						 -		-
				·				
	oncentration, D=De Indicators:	epletion, RM	I=Reduced Matrix, M	S=Masked S	and Grains.			n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
Hydroge Stratified Deplete Thick Do Sandy N Sandy C Sandy F Stripped Dark Su	istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surfa ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) Irface (S7) (LRR R	MLRA 149		Mineral (F1) (Matrix (F2) (F3) (F3) (F6) Surface (F6) Sions (F8)	(LRR K, L)		Dark Polyv Thin I Iron-N Piedn Mesic Red F Very Other	Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B) C Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
	r nydropnytic veget Layer (if observed		retland hydrology mus	st be present	, uniess dis	turbea d	or problemat	IC.
Туре:								
Depth (in	ches):						Hydric Soi	il Present? Yes No
emarks: A depleto	ed matrix wit	h redox	was observed					



wasd007s_w_E



wasd007s_w_NE

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): AGG/OTG	
File #: wasd007	Date of visit(s): 10/02/2019	
Location: PLSS: 044N-003W-01	Ecological Landsca North Central Forest	ape:
Lat: 46.315873 Long: 90.766768 County: Ashland Town/City/Village: Morse town	Watershed: LS14, Upper Bad River	
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class: N/A	
809D Gogebic-Metonga-Rock outcrop complex Field Verified:	Wetland Type(s): PSS - Alder Thic	cket
Series not verified. Soils were a clay loam.	Wetland Size: 0.04	Wetland Area Impacted 0.04
Hydrology: The wetland hydrology regime is saturated.	Alnus incana, ar	Description(s): an alder thicket dominated by and the herbaceous layer aninantly of Carex bromoides.

SITE MAP		

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	N	N	3 or more strata present (>10% cover)
3	N	N N	Within or adjacent to habitat corridor or established wildlife habitat area
4		Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N		
-	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present <u>> 45 days</u>
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	Υ	Υ	water levels or high flows – if no, not applicable
3	Υ	Υ	Densely rooted emergent or woody vegetation
ST		-	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7			Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	N	N	Water Quality Protection
	N.		
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	Υ	Y	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Υ	Υ	Springs, seeps or indicators of groundwater present
2	N	N N	Location near a groundwater divide or a headwater wetland
3	Y	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
	I N		
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) WH-4: The feature is located adjacent to a road, but the wetland is otherwise connected to a large habitat block ST-1: An intermittent stream is associated with the wetland GW-1: Fed by groundwater and flood events Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Potential Observed Species/Habitat/Comments Birds Υ Amphibians Mammals Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Abies balsamea			PSS	Uncommon
Alnus incana			PSS	Abundant
Acer rubrum			PSS	Uncommon
Populus tremuloides			PSS	Uncommon
Carex bromoides			PSS	Abundant
Solidago gigantea			PSS	Uncommon
Equisetum pratense			PSS	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The ground layer is dominated by Carex bromoidies, with other forbs and ferns intermixed. There are multiple different shrub species in the wetland but speckled alder is dominant. No invasive species were observed.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		M	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		M	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
	Х		L	С	Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

A road is adjacent to the wetland, but the feature is otherwise relatively undisturbed.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE									
	Low	Medium	High	Exceptional	NA					
Floristic Integrity		✓								
Human Use Values	√									
Wildlife Habitat	√									
Fish and Aquatic Life Habitat	√									
Shoreline Protection			√							
Flood and Stormwater Storage		✓								
Water Quality Protection	√									
Groundwater Processes			√							

FUNCTION	RATIONALE
Floristic Integrity	Good diversity of native species.
Human Use Values	No observed uses.
Wildlife Habitat	Small densely shrubbed wetland.
Fish and Aquatic Life Habitat	Marginal potential habitat due to frequent saturation and the associated stream.
Shoreline Protection	Dense vegetation prevents erosion.
Flood and Stormwater Storage	Feature has a stream running through it.
Water Quality Protection	Doesn't hold a significant quantity of water.
Groundwater Processes	Groundwater-fed discharge feature associated with a stream.

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-02
•			
Investigator(s): AGG/OTG	Section, Township	, Range: <u>044N-003W-(</u>	01
Landform (hillslope, terrace, etc.): Head slope			
Subregion (LRR or MLRA): Northcentral Forests La			
Soil Map Unit Name: Gogebic-Metonga-Rock outc			
Are climatic / hydrologic conditions on the site typical			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes✓	No Is the Sam		
	No ✓ within a W	etland? Yes	No <u> √</u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in	n a separate report.)	/ acpan	
The sample plot is located within m	iesic ioresi dominated by	у аѕреп.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; che	ck all that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	_ Water-Stained Leaves (B9)	Drainage Pa	tterns (B10)
	_ Aquatic Fauna (B13)	Moss Trim L	
	_ Marl Deposits (B15)		Water Table (C2)
	_ Hydrogen Sulfide Odor (C1)	Crayfish Bur	
	Oxidized Rhizospheres on Living I		isible on Aerial Imagery (C9)
_ , , ,	Presence of Reduced Iron (C4)		tressed Plants (D1)
	Recent Iron Reduction in Tilled Sc		Position (D2)
	_ Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)	Nicrotopogra	aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D5)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Preser	nt? Yes No √
(includes capillary fringe)		, ,,	
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspec	iions), if available:	
Remarks:			
No wetland hydrology indicators we	ere observed.		

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of plants				Sampling Point: wasd007_u
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Acer saccharum				Number of Dominant Species That Are OBL, FACW, or FAC: 3.0 (A)
2				Total Number of Dominant Species Across All Strata: 5.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0 (A/B)
5				That Are OBL, FACW, or FAC: 60.0 (A/B)
6				Prevalence Index worksheet:
7		= Total Co		
Sapling/Shrub Stratum (Plot size: 15')	10.0	= Total Co	vei	FACW species 0.0 x2 = 0.0
1. Populus tremuloides	60 O	V	ΕΛC	FAC species 90.0 x3 = 270.0
-				FACU species 15.0 x 4 = 60.0
2. <u>Abies balsamea</u>				UPL species0.0 x 5 =0.0
3				Column Totals: <u>105.0</u> (A) <u>330.0</u> (B)
4				Prevalence Index = B/A =3.1
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				∠ 2 - Dominance Test is >50%
	85.0	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') 1. Carex pedunculata	5 0	V	ΕΛC	4 - Morphological Adaptations ¹ (Provide supporting
				data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Pyrola elliptica</u>				Troblematic Hydrophytic vegetation (Explain)
3				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				Woody vines – All woody vines greater than 3.28 ft in height.
	10.0	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation
	0.0	= Total Co	ver	
		= Total Co		Vegetation

SOIL Sampling Point: wasd007_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of ind	licators.)
Depth	Matrix			x Features	-		.	5 .
(inches) 0-4	Color (moist) 10YR 2/1	100	Color (moist)	<u> %</u>	Type'	_Loc ²	CI.	Remarks
				·				
4-8	10YR 4/3	100		·			SIL	
								_
	·			·				
¹ Type: C=C Hydric Soil	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix. oblematic Hydric Soils³:
Histoso			Polyvalue Belov	w Surface	(S8) (LR	R R.		A10) (LRR K, L, MLRA 149B)
	pipedon (A2)	-	MLRA 149B))			Coast Prairie	Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)	-	Thin Dark Surfa Loamy Mucky N					Peat or Peat (S3) (LRR K, L, R) e (S7) (LRR K, L)
	d Layers (A5)	-	Loamy Gleyed			, L)		elow Surface (S8) (LRR K, L)
-	d Below Dark Surface	e (A11)	Depleted Matrix					urface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)	-	Redox Dark Su Depleted Dark \$		·7)			ese Masses (F12) (LRR K, L, R) podplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)	- -	Redox Depress		,,			c (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)							Material (F21)
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B)					r Dark Surface (TF12) in in Remarks)
	of hydrophytic vegetat		land hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:							Hudria Sail Brasa	ent? Yes No <u>√</u>
	ches):		<u> </u>				nyaric Soil Prese	int? res No <u>√</u>
Remarks: No hydri	c soil indicator	s were	observed.					



wasd007_u_N



wasd007_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation	on Project	City/C	County: Ash	ıland		Sampling Date: 2019-10-02	
Applicant/Owner: Enbridge	•						
Investigator(s): AGG/OTG							
Landform (hillslope, terrace, etc.): <u>[</u>							
Subregion (LRR or MLRA): Northco							
Soil Map Unit Name: Gogebic-Met							
Are climatic / hydrologic conditions of							
Are Vegetation, Soil							
Are Vegetation, Soil							
SUMMARY OF FINDINGS –	Attach site n	nap showing san	npling poir	nt location	ns, transects,	, important features, etc.	
Hydrophytic Vegetation Present?		No	Is the Samp		Yes <u>√</u>	No	
Hydric Soil Present? Wetland Hydrology Present?		No No					
Remarks: (Explain alternative pro			if yes, option	nai vvetiand	Site ID:		
The feature is a hardwo	ood swamp	dominated by b	lack ash.	There is	a diversity	of habitat types	
across the wetland whe	ere trees bec	come more or le	ess domir	nant but	they always	remain present.	
					, ,	•	
HYDROLOGY							
Wetland Hydrology Indicators:				2	Secondary Indicat	tors (minimum of two required)	
Primary Indicators (minimum of on	e is required; chec	ck all that apply)			Surface Soil (Cracks (B6)	
✓ Surface Water (A1)		Water-Stained Leave		Drainage Patterns (B10)			
✓ High Water Table (A2)		Aquatic Fauna (B13)			Moss Trim Lir		
Saturation (A3)		Marl Deposits (B15)			Dry-Season V		
Water Marks (B1)		Hydrogen Sulfide Od			Crayfish Burr		
Sediment Deposits (B2) Drift Deposits (B3)		Oxidized Rhizosphere Presence of Reduced	_			sible on Aerial Imagery (C9) ressed Plants (D1)	
Algal Mat or Crust (B4)		Recent Iron Reduction			Geomorphic I		
Iron Deposits (B5)		Thin Muck Surface (0			✓ Shallow Aquit		
Inundation Visible on Aerial In		Other (Explain in Rer			Microtopogra		
Sparsely Vegetated Concave	Surface (B8)				✓ FAC-Neutral *	Test (D5)	
Field Observations:		_					
		_ Depth (inches): 3					
		_ Depth (inches): 0					
Saturation Present? Ye (includes capillary fringe)	s No	_ Depth (inches): 0		Wetland Hy	ydrology Presen	t? Yes/ No	
Describe Recorded Data (stream of	gauge, monitoring	well, aerial photos, pre	vious inspect	ions), if avail	lable:		
Domonico							
Remarks: The wetland hydrology	regime is se	asonally floode	ed. The fe	eature is	a discharge	e wetland.	
		, , , , , , , , , , , , , , , , , , , ,					

VEGETATION – Use scientific names of plants.				Sampling Point: wasd006f_w1
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Fraxinus nigra	30.0	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:8(A)
2. <u>Thuja occidentalis</u>				
3. <u>Betula alleghaniensis</u>	10.0	Y	FAC	Total Number of Dominant Species Across All Strata: (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5				
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	50	= Total Co	ver	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 15')				FACW species 137 x 2 = 274
1. <u>Betula alleghaniensis</u>			<u>FAC</u>	FAC species x 3 = 75 FACU species 0 x 4 = 0
2. <u>Acer rubrum</u>	5.0	Y	_FAC_	UPL species x 5 =
3. Alnus incana	5.0	Y	FACW	Column Totals: 162 (A) 349 (B)
4. <u>Ilex verticillata</u>	5.0	Y	FACW	Column Totals. 102 (A) 349 (B)
5				Prevalence Index = B/A = 2.15
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')		. otal oo		3 - Prevalence Index is ≤3.0¹
1. <u>Carex bromoides</u>	75.0	Y	FACW	4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
2. <u>Doellingeria umbellata</u>	5.0	N	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Onoclea sensibilis</u>	5.0	Ν	FACW	
4. <u>Dryopteris intermedia</u>		N	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Solidago gigantea			FACW	Definitions of Vegetation Strata:
6.				Definitions of Vegetation Strata.
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.		-		Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')		. 514. 55		
1				
2				
3				Hodge who die
				Hydrophytic Vegetation
4				Present? Yes ✓ No
Demontrar (Include photo numbers have as an account of		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate s The sample plot is located within a wet		lominate	ed by bla	ack ash.

SOIL Sampling Point: wasd006f_w1

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix			x Features		1 2	T	Remarks
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type'	Loc ²	Texture	Remarks
0-8	10YR 2/1	100					_MMI	
				· <u></u>				
				. ———				
		. .						
		· · · · · · · · · · · · · · · · · · ·						
	-							
		. ——						
		. <u></u>						
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix.
Hydric Soil								r Problematic Hydric Soils ³ :
Histosol			Polyvalue Belov		(S8) (LRF	RR,		ck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		RRR MI	RA 149R)		airie Redox (A16) (LRR K, L, R) cky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)	•	✓ Loamy Mucky N					face (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed)		Polyvalue	e Below Surface (S8) (LRR K, L)
-	d Below Dark Surface	e (A11)	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)	;	Redox Dark Su Depleted Dark \$					ganese Masses (F12) (LRR K, L, R) : Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)	•	Redox Depress		,,			odic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)	·		, ,				ent Material (F21)
	d Matrix (S6)							llow Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R, N	ILRA 149B)				Other (Ex	plain in Remarks)
³ Indicators o	f hydrophytic vegetat	ion and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive	Layer (if observed):							
Type: pa	arent material							
Depth (in	ches): <u>8</u>						Hydric Soil Pr	esent? Yes/ No
Remarks:								
A mucky	mineral soil w	as obs	erved.					



wasd006f_w1_S



wasd006f_w1_SW

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashl	land	Sampling Date: 2019-10-17
Applicant/Owner: Enbridge			
Investigator(s): BRG/DGL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.3			
Soil Map Unit Name: Minocqua-Pleine-Cathro co			
Are climatic / hydrologic conditions on the site typical for this t	•	•	
Are Vegetation, Soil, or Hydrology sig	-		
Are Vegetation, Soil, or Hydrology nat			
SUMMARY OF FINDINGS – Attach site map sl	nowing sampling poin	t locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes No _	Is the Samp		
Hydric Soil Present? Yes ✓ No	within a We	tland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ No		nal Wetland Site ID:	
The wetland is a large hardwood swamp	located in a depres	ssion within a your	g disturbed forest.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicate	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	at apply)	Surface Soil	Cracks (B6)
	-Stained Leaves (B9)	Drainage Pa	
	ic Fauna (B13)	Moss Trim L	
	Deposits (B15)		Water Table (C2)
	gen Sulfide Odor (C1) ed Rhizospheres on Living R	Crayfish Bui	rrows (C8) /isible on Aerial Imagery (C9)
	nce of Reduced Iron (C4)		Stressed Plants (D1)
	t Iron Reduction in Tilled Soil		
<u> </u>	luck Surface (C7)	Shallow Aqu	
	(Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutra	l Test (D5)
Field Observations:			
Surface Water Present? Yes No _ ✓ Depth			
Water Table Present? Yes No Depth	,		
Saturation Present? Yes _ ✓ No Depth (includes capillary fringe)	n (inches): 0	Wetland Hydrology Preser	nt? Yes/ No
Describe Recorded Data (stream gauge, monitoring well, ae	rial photos, previous inspection	ons), if available:	
Remarks:			
The hydrologic regime is seasonally satu	rated, with recharg	e hydrology. Rain	events occurred in the
days prior to survey.		, ,,	

/EGETATION – Use scientific names of plants.	ı			Sampling Point: wasd006f_w2
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. <u>Fraxinus nigra</u>	30.0	Y	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC:6 (A)
2. <u>Abies balsamea</u>	10.0	Y	FAC	Total Number of Dominant
3. <u>Thuja occidentalis</u>	10.0	Y	FACW	Species Across All Strata: 7 (B)
4. <u>Betula alleghaniensis</u>	10.0	Y	FAC	Percent of Dominant Species
5. <u>Tsuga canadensis</u>	5.0	N	FACU	That Are OBL, FACW, or FAC: 85.71 (A/B)
6	_			Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cov		OBL species5 x1 =5
Sapling/Shrub Stratum (Plot size:)				FACW species
1. Abies balsamea	15.0	Υ	FAC	FAC species <u>49</u> x 3 = <u>147</u>
2. Corvlus cornuta				FACU species 20 x 4 = 80
3				UPL species 0 x 5 = 0
4.				Column Totals: <u>144</u> (A) <u>372</u> (B)
5				Prevalence Index = B/A = 2.58
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov		∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')		- 10101 001		3 - Prevalence Index is ≤3.0¹
1. <u>Carex bromoides</u>	30.0	Y	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Athyrium angustum		N	FAC	Problematic Hydrophytic Vegetation¹ (Explain)
Dryopteris intermedia		N	FAC	
4. Carex crinita		N	OBL	¹ Indicators of hydric soil and wetland hydrology must
		N	FACU	be present, unless disturbed or problematic.
5. <u>Carex gracillima</u>6. <u>Cornus canadensis</u>			FAC	Definitions of Vegetation Strata:
			FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Symphyotrichum lateriflorum</u>				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11.				
12				Woody vines – All woody vines greater than 3.28 ft in height.
	54	= Total Cov	/er	
Woody Vine Stratum (Plot size:)				
1				
2			-	
3				Hydrophytic Vegetation
4				Present? Yes/ No
		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate s The wetland is dominated by Fraxinus I		nd Carev	, hromo	ides with frequent small tussocks and
variable tree species present.	ngra ari	id Cale/	CDIOIIO	idos, with hogoent small tussoons and

SOIL Sampling Point: wasd006f_w2

Profile Desc	ription: (Describe	to the de	oth needed to docu	ment the i	indicator	or confirm	the absence o	f indicators.)
Depth	Matrix			ox Feature	s			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0-20	7.5YR 3/2	98	7.5YR 4/4	2	_C_	_M_	_MMI	
	-							
				-	·			
				_				
		_						
				-				
			-					
1			Deduced Matrix M				21	DL. Dans Links AA AAstalo
Hydric Soil		pietion, Riv	=Reduced Matrix, M	S=IVIASKeC	a Sand Gr	ains.		PL=Pore Lining, M=Matrix. or Problematic Hydric Soils ³ :
Histosol			Polyvalue Belo	w Surface	(S8) (LR	RR.		uck (A10) (LRR K, L, MLRA 149B)
	oipedon (A2)		MLRA 149B		, , ,	,		rairie Redox (A16) (LRR K, L, R)
Black Hi	, ,		Thin Dark Surf					ucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4) d Layers (A5)		✓ Loamy Mucky✓ Loamy Gleyed			, L)		rface (S7) (LRR K, L) ue Below Surface (S8) (LRR K, L)
	d Below Dark Surfa	ce (A11)	Depleted Matri		-)			rk Surface (S9) (LRR K, L)
	ark Surface (A12)	,	Redox Dark Su					nganese Masses (F12) (LRR K, L, R)
	flucky Mineral (S1)		Depleted Dark		- 7)			nt Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)		Redox Depres	sions (F8)				podic (TA6) (MLRA 144A, 145, 149B)
-	ledox (S5) Matrix (S6)							ent Material (F21) allow Dark Surface (TF12)
	rface (S7) (LRR R,	MLRA 149	B)					Explain in Remarks)
	f hydrophytic vegeta Layer (if observed)		etland hydrology mu	st be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed)):						
Type:							Hydric Soil B	Present? Yes No
Depth (inc	ches):						Hyuric 30ii F	resent: res v No
Remarks:	nucky mineral	l with re	dox througho	ut the r	rofile			
Loanly II	lucky Illillera	i with ie	dox unougno	ut tile p	oronie.			



wasd006f_w2_E



wasd006f_w2_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): AGG/OTG		
File #: wasd006	Date of visit(s): 10/02/2019		
Location: PLSS: 044N-003W-01	Ecological Landsca North Central Forest	ape:	
Lat: 46.314982 Long: -90.67735 County: Ashland Town/City/Village: Morse town	Watershed: LS14, Upper Bad River		
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: T3/5K		
809D Gogebic-Metonga-Rock outcrop complex, 809C Gogebic-Metonga-Rock outcrop complex, 5170A Minocqua-Pleine-Cathro complex	Wetland Type(s): PFO/PEM complex - Hardwood Swamp/Fresh Wet		
Field Verified:	Meadow		
Series not verified. Soils were a mucky mineral above a restrictive layer of parent material.	Wetland Size: 8.18	Wetland Area Impacted 8.18	
	Vegetation: Plant Community Description(s):		
Hydrology: The wetland hydrology regime is seasonally flooded. The feature is a discharge wetland.	Hardwood swamp dominated primarily by a canopy of Fraxinus nigra. Carex bromoides is very common in the herbaceous layer.		

SITE MAP		

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	Υ	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3			
	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	Υ	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present > 45 days
10	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	Ν	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N.	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	ı	<u>'</u>	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	Υ	Υ	water levels or high flows – if no, not applicable
3	Υ	Υ	Densely rooted emergent or woody vegetation
ST	Y	Y	Storm and Floodwater Storage
1	Y	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Υ	Υ	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Υ	Υ	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
5	Y	Y	Dense, persistent vegetation
6	N	N N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Y	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW	IN	IN	Groundwater Processes
\vdash		.,	
1	Υ	Y	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	Υ	Υ	Wetland remains saturated for an extended time period with no additional water inputs
4	Υ	Υ	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: Located on private land WH-6: Trees become more or less dominant in parts of the wetland (but are always present) WH-9: Standing water is frequently present between hummocks SP-1: An intermittent stream feature runs through a portion of the wetland ST-5: The feature is adjacent to a wide road GW-1: The feature is groundwater-fed, and also obtains some water from flooding Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Birds Υ **Amphibians** Reptiles Mammals Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant [Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Common
Thuja occidentalis			PFO	Common
Betula alleghaniensis			PFO	Common
Acer rubrum			PFO	Uncommon
Alnus incana			PFO	Uncommon
llex verticillata			PFO	Uncommon
Carex bromoides			PFO	Abundant
Doellingeria umbellata			PFO	Uncommon
Onoclea sensibilis			PFO	Uncommon
Dryopteris intermedia			PFO	Uncommon
Solidago gigantea			PFO	Uncommon
Abies balsamea			PFO	Common
Tsuga canadensis			PFO	Uncommon
Corylus cornuta			PFO	Common
Athyrium angustum			PFO	Uncommon
Carex crinita			PFO	Uncommon
Carex gracillima			PFO	Uncommon
Cornus canadensis			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The ground layer is dominated by Carex bromoidies with other forbs and ferns intermixed. There are multiple different shrub and tree species within the wetland. No invasive species were observed and the feature has a diversity of habitat types.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
Х	Х		M	С	Point source or stormwater discharge
Х	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		M	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The feature is located on private land. A small part of the wetland is adjacent to a road (and the intermittent stream	1
running through the wetland is also influenced by this road), but the wetland is otherwise relatively undisturbed.	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE						
	Low	Medium	High	Exceptional	NA		
Floristic Integrity		✓					
Human Use Values	√						
Wildlife Habitat			√				
Fish and Aquatic Life Habitat		√					
Shoreline Protection			√				
Flood and Stormwater Storage			√				
Water Quality Protection			√				
Groundwater Processes			√				

FUNCTION	RATIONALE
Floristic Integrity	Good diversity of native species.
Human Use Values	No observed uses, hunting potential.
Wildlife Habitat	Large wetland with a variety of habitats.
Fish and Aquatic Life Habitat	Standing water present between hummocks.
Shoreline Protection	Dense vegetation prevents erosion.
Flood and Stormwater Storage	Feature has a stream running through it and is very large.
Water Quality Protection	Holds a significant amount of water.
Groundwater Processes	Large groundwater-fed discharge feature.

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sai	mpling Date: <u>2019-10-02</u>
Applicant/Owner: Enbridge		;	State: WI S	Sampling Point: wasd006_u1
Investigator(s): AGG/OTG	Section, Tov	vnship, Range: <u>04</u> 4	1N-003W-01	
Landform (hillslope, terrace, etc.): Side slope				
Subregion (LRR or MLRA): Northcentral Forests L	at: 46.315008	Long: -90.6	677433	Datum: WGS84
Soil Map Unit Name: Gogebic-Metonga-Rock outc				
Are climatic / hydrologic conditions on the site typica				
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology _				
SUMMARY OF FINDINGS – Attach site	map showing sampling	point location	s, transects, im	nportant features, etc.
Hydrophytic Vegetation Present? Yes	No✓ Is the	Sampled Area		
Hydric Soil Present? Yes	No <u>√</u> withi	n a Wetland?	Yes	No <u>√</u>
Wetland Hydrology Present? Yes	No <u></u> If yes	, optional Wetland S	ite ID:	
Young mesic hardwood forest on a	a siope.			
HYDROLOGY				
Wetland Hydrology Indicators:		<u>S</u> (econdary Indicators	(minimum of two required)
Primary Indicators (minimum of one is required; ch	eck all that apply)		_ Surface Soil Crad	cks (B6)
	Water-Stained Leaves (B9)	_	_ Drainage Pattern	s (B10)
	Aquatic Fauna (B13)	_	_ Moss Trim Lines	
	Marl Deposits (B15)	_	_ Dry-Season Wate	
	Hydrogen Sulfide Odor (C1)		-	
	Oxidized Rhizospheres on L			e on Aerial Imagery (C9)
_ · · · · · ·	Presence of Reduced Iron (_ Stunted or Stress	
	Recent Iron Reduction in Til		_ Geomorphic Pos	
	Thin Muck Surface (C7)		Shallow AquitardMicrotopographic	
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	_	Microtopographic FAC-Neutral Tes	
Field Observations:			_ 1 AO Nediai 163	(00)
	Depth (inches):			
			drology Present?	Yes No <u>√</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monitorin	a well periol photos provious i	annotiona) if availa	hlo	
Describe Recorded Data (stream gauge, monitoring	g well, aeriai priotos, previous il	ispections), ii avalia	bie.	
Remarks:				
No wetland hydrology indicators w	ere observed.			

VEGETATION – Use scientific names of plants.

/EGETATION - Use scientific names of plants	5.			Sampling Point: wasd006_u1
Tree Stratum (Plot size:)	Absolute % Cover		nt Indicator Status	Dominance Test worksheet:
1. Acer saccharum				Number of Dominant Species That Are OBL, FACW, or FAC: 3.0 (A)
2				Total Number of Dominant Species Across All Strata: 6.0 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 (A/B)
5				, , ,
6				Prevalence Index worksheet:
7		·		Total % Cover of: Multiply by:
Condition (Charth Chartham (Diet sine) 15!	15.0	= Total Co	over	OBL species x 1 = FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 15')	75.0	V	E	FAC species 145.0 x3 = 435.0
1. Acer rubrum				FACU species x 4 = 220.0
2. Corylus cornuta				UPL species 0.0 x 5 = 0.0
3. <u>Abies balsamea</u> 4				Column Totals: <u>200.0</u> (A) <u>655.0</u> (B)
5				Prevalence Index = B/A =3.3
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	110.0		over	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')	110.0	- rotar o	3701	3 - Prevalence Index is ≤3.0¹
1. <u>Pteridium aquilinum</u>	15.0_	Y	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <i>Rubus idaeus</i>	_15.0	Y	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Dryopteris intermedia</u>			FAC	4
4. <u>Cornus canadensis</u>		N	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Osmunda claytoniana			FAC	
6. <u>Carex pedunculata</u>				Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9 10.				
10 11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	75.0	= Total Co	over	height.
Woody Vine Stratum (Plot size:30')				
1		-		
2				
3				Hydrophytic
4				Vegetation Present?
	0.0	= Total Co	over	105 <u>105 <u>1</u></u>
Remarks: (Include photo numbers here or on a separate The sample plot is located in an area h mature trees in the area.		ominat	ed by sh	rubs and saplings. There are very few

SOIL Sampling Point: wasd006_u1

	cription: (Describe	to the dep				or confirm	n the absence of indicators.)
Depth (inches)	Matrix Color (moist) %		Redox Features Color (moist) % Type ¹ Loc ²				Texture Remarks
0-9	10YR 3/3	100	Color (moloc)		Турс		SICL
9-20	10YR 4/3	100					SIL
	-						
							·
¹ Type: C=C	oncentration. D=Dep	letion. RM:	=Reduced Matrix. MS	=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators:						Indicators for Problematic Hydric Soils ³ :	
Histosol (A1) Polyvalue Below Surface (S8) (LRR R,						2 cm Muck (A10) (LRR K, L, MLRA 149B)	
Histic Epipedon (A2) Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B)						Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L)						Dark Surface (S7) (LRR K, L)	
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3)						Polyvalue Below Surface (S8) (LRR K, L)Thin Dark Surface (S9) (LRR K, L)	
Depleted Below Bark Surface (ATT) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6)						Iron-Manganese Masses (F12) (LRR K, L, R)	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)						Piedmont Floodplain Soils (F19) (MLRA 149B	
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5)						Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)	
Stripped Matrix (S6)						Very Shallow Dark Surface (TF12)	
Dark Surface (S7) (LRR R, MLRA 149B)						Other (Explain in Remarks)	
³ Indicators o	f hydrophytic vegetat	ion and we	etland hydrology must	t be prese	ent, unless	disturbed	or problematic.
Restrictive	Layer (if observed):						
Type:							
Depth (inches):						Hydric Soil Present? Yes No/	
Remarks:	c soil indicator	's were	observed				
110 Hydri		0 11010	obcorvou.				



wasd006_u1_E



wasd006_u1_N

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Count	y: Ashland	Sampling Date: 2019-10-17
Applicant/Owner: Enbridge			
Investigator(s): BRG/DGL	Section, To	ownship, Range: <u>044N-003\</u>	N-12
Landform (hillslope, terrace, etc.): Side slope			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Gogebic-Metonga-Rock ou			
Are climatic / hydrologic conditions on the site typic			
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	e map showing samplir	ng point locations, transe	ects, important features, etc.
Hydrophytic Vegetation Present? Yes		ne Sampled Area	
	NO <u> </u>	nin a Wetland? Yes	No <u>√</u>
		es, optional Wetland Site ID:	
Remarks: (Explain alternative procedures here of The upland is a young upland fore		turbed in the past	
The apiana is a young apiana lore	ost triat rias been dis	tarbea in the past.	
HYDROLOGY			
Wetland Hydrology Indicators:		•	ndicators (minimum of two required)
Primary Indicators (minimum of one is required; cl			Soil Cracks (B6)
	Water-Stained Leaves (B9		e Patterns (B10)
	Aquatic Fauna (B13) Marl Deposits (B15)		im Lines (B16) son Water Table (C2)
	Hydrogen Sulfide Odor (C		Burrows (C8)
	 Oxidized Rhizospheres on		on Visible on Aerial Imagery (C9)
	Presence of Reduced Iron		or Stressed Plants (D1)
1 	Recent Iron Reduction in	• •	phic Position (D2)
	Thin Muck Surface (C7)		Aquitard (D3)
	Other (Explain in Remarks		pographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Ne	utral Test (D5)
Field Observations:			
Surface Water Present? Yes No	✓ Depth (inches):		
	✓ Depth (inches):		
Saturation Present? Yes No (includes capillary fringe)	✓ Depth (inches):	Wetland Hydrology Pro	esent? Yes No <u>√</u>
Describe Recorded Data (stream gauge, monitorio	ng well, aerial photos, previous	inspections), if available:	
Damada			
Remarks: No indicators of wetland hydrolog	v were observed.		
The managers of Westana my areleg	y word about you.		

VEGETATION – Use scientific names of plants				Sampling Point: wasd006_u2
Tree Stratum (Plot size:30')	Absolute % Cover	Dominan Species?	t Indicator Status	Dominance Test worksheet:
1. Quercus rubra	20.0	Υ	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
2. Populus tremuloides			FAC	
3. <u>Tsuga canadensis</u>		N	FACU	Total Number of Dominant Species Across All Strata: 8 (B)
4. Abies balsamea		N	FAC	
5. Acer saccharum		N	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC:
6. Betula alleghaniensis			FAC	
· ·			IAC	Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
Oct lie (Obsert Ottoburg (District)	05.0	= Total Co	over	OBL species 0 x 1 = 0 FACW species 2 x 2 = 4
Sapling/Shrub Stratum (Plot size: 15')	00.0	V	E4011	FAC species x3 =4
1. Acer saccharum				FACU species 94 x 4 = 376
2. <u>Abies balsamea</u>			_FAC_	UPL species x 5 =0
3. <u>Betula papyrifera</u>		N	FACU	Column Totals: <u>169</u> (A) <u>599</u> (B)
4. Quercus rubra			<u>FACU</u>	Brooklands Indoor B/A 2.54
5. <u>Tsuga canadensis</u>	_ <u>5.0</u>	N	<u>FACU</u>	Prevalence Index = B/A =3.54
6. <u>Prunus serotina</u>	2.0	N	<u>FACU</u>	Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	62	= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting
1. Cornus canadensis	15.0	Y	FAC	data in Remarks or on a separate sheet)
2. <u>Carex pedunculata</u>	10.0	Y	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Diervilla Ionicera</u>		Y	NI	4
4. Acer saccharum		Υ	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Trientalis borealis		N	FAC	Definitions of Vegetation Strata:
6. Rubus pubescens		N	FACW	
7. Phegopteris connectilis		N	FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. Rubus idaeus				
9			1710	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				
11.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
		-	-	Woody vines – All woody vines greater than 3.28 ft in
12		T-1-1-0-		height.
201		= Total Co	over	
Woody Vine Stratum (Plot size: 30')				
1				
2		-		
3		-		Hydrophytic
4				Vegetation Present? Yes No✓_
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate Sample plot is dominated by Quercus r		nnulus	tremuloi	des, and Acer saccharum
cample plot is dominated by Quercus i	ubra, i t	opulus	uemaon	des, and Acer sacchardin.

SOIL Sampling Point: wasd006_u2

Profile Desc	cription: (D	escribe t	to the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth		Matrix	0/	Calar /r		x Features		1.22	Tarritana	Damada
(inches)	Color (n		400	Color (r	noist)	%	Type'	Loc ²	SIL	Remarks
0-7	7.5YR		100		4/0					_
7-20	<u>5YR</u>	4/3	_98_	5YK	4/6			_M_	SIL	
	-									
						·		-		
	-									
1 0 0									21	
Hydric Soil	oncentration Indicators:	, D=Dері	etion, Rivi	=Reduced i	viatrix, ivis	>=IVIasked	Sand Gr	ains.		L=Pore Lining, M=Matrix. Problematic Hydric Soils ³ :
Histosol	(A1)			Polyva	alue Belov	w Surface	(S8) (LR I	R R,		k (A10) (LRR K, L, MLRA 149B)
	pipedon (A2))			RA 149B)		DD D M	L D A 440D)		irie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A	4)				ice (59) (L ⁄lineral (F1		LRA 149B) (, L)		ky Peat or Peat (S3) (LRR K, L, R) ace (S7) (LRR K, L)
Stratifie	d Layers (A5	5)		Loamy	Gleyed I	Matrix (F2		,	Polyvalue	Below Surface (S8) (LRR K, L)
-	d Below Dar ark Surface (e (A11)		ted Matrix	(F3) rface (F6)				Surface (S9) (LRR K, L) panese Masses (F12) (LRR K, L, R)
	Aucky Minera					Surface (F6)	7)		-	Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix	x (S4)		Redox	Depress	ions (F8)				odic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5) d Matrix (S6)									nt Material (F21) low Dark Surface (TF12)
	rface (S7) (L		ILRA 1491	3)						plain in Remarks)
		-	ion and we	etland hydro	ology mus	st be prese	ent, unles	s disturbed	or problematic.	
Restrictive	Layer (if ob	served):								
Type:	oboo).								Hydric Soil Pre	esent? Yes No✓_
Remarks:	ches):								- Tryuno Gon Tro	100 100 <u></u>
No hydri	c soil inc	licator	s obse	rved.						



wasd006_u2_E



wasd006_u2_W

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashlar	nd	Sampling	Date : 10-Oct-19
Applicant/Owner: Enbridge		State: WI	Sampling Point	: wasw039f
Investigator(s): ES/WC	Section, Townshi	p. Range: S. 7	 т. 44N	R . 2W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave		concave	Slope: <u>26.7</u> % / <u>15.0</u>
Subregion (LRR or MLRA): LRR K Lat.:	46.31113428	Long.: -90	.67361266	Datum: WGS 1984
Soil Map Unit Name: Gogebic-Metonga-Rock outcrop complex, 10 to	35 percent slopes, ve	ry stony N	IWI classification:	None
Are climatic/hydrologic conditions on the site typical for this time of y			explain in Remarks	`
	,	()	nstances" present?	Yes No
	•		•	
			any answers in Ren	
Summary of Findings - Attach site map showing	sampling point	locations, tr	ansects, impoi	rtant features, et
Hydrophytic Vegetation Present? Yes No No	Is the Samp	led Area		
Hydric Soil Present? Yes No	within a We		● No ○	
Wetland Hydrology Present? Yes ● No ○				
Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)			darv Indicators (minim urface Soil Cracks (B6)	
✓ Surface Water (A1) ✓ Water-Stained Le	aves (B9)	✓ D	rainage Patterns (B10)	
High Water Table (A2) Aquatic Fauna (B			loss Trim Lines (B16)	
Saturation (A3) Marl Deposits (B1			ry Season Water Table	(C2)
Water Marks (B1) Hydrogen Sulfide			rayfish Burrows (C8)	(00)
	neres along Living Roots	` ′ _	aturation Visible on Ae	
	cea Iron (C4) ction in Tilled Soils (C6)		tunted or Stressed Plar eomorphic Position (D2	• •
☐ Iron Deposits (B5) ☐ Thin Muck Surfac			hallow Aquitard (D3)	<u>-</u>)
Inundation Visible on Aerial Imagery (B7) Other (Explain in	• •		licrotopographic Relief	(D4)
Sparsely Vegetated Concave Surface (B8)	Kemarksy	☐ F	AC-neutral Test (D5)	
		etland Hydrology ons), if available:	Present? Yes	No O
Remarks:				

Absolute 6 Cover 25 15 35		over	Indicator Status	Dominance Test worksheet:
15	V		Status	Number of Dominant Species
		28.7%	FACU	That are OBL, FACW, or FAC:4(A)
35	Ш	17.2%	FAC	
	✓	40.2%	FAC	Total Number of Dominant Species Across All Strata: 6 (B)
12		13.8%	FACU	
0		0.0%		Percent of dominant Species That Are OBL FACW or FAC: 66.7% (A/B)
0		0.0%		That Are OBL, FACW, or FAC: 66.7% (A/B)
0		0.0%		Prevalence Index worksheet:
87	= To	otal Cove	r	Total % Cover of: Multiply by: OBL species20
15	✓.	68.2%	FAC	FACW species 19 x 2 = 38
5	✓.	22.7%	FACU	FAC species 115 x 3 = 345
2	\square	9.1%	FACW	
0		0.0%		•
0	Ш	0.0%		or E specifics
0	Щ	0.0%		Column Totals: <u>196</u> (A) <u>571</u> (B)
0	U, T .	0.0%		Prevalence Index = B/A = 2.913
	= 10	otal Cove	r	Hydrophytic Vegetation Indicators:
50	~	57.5%	FAC	Rapid Test for Hydrophytic Vegetation
7		8.0%	FACW	✓ Dominance Test is > 50%
20	V	23.0%	OBL	Prevalence Index is ≤3.0 ¹
5		5.7%	FACW	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5		5.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
0		0.0%		
0		0.0%		¹ Indicators of hydric soil and wetland hydrology mus
0		0.0%		be present, unless disturbed or problematic.
0		0.0%		Definitions of Vegetation Strata:
0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
0		0.0%		at breast height (DBH), regardless of height.
0		0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
87	= To	otal Cove	r	greater than 3.28 ft (1m) tall
0		0.0%		Herb - All herbaceous (non-woody) plants, regardless
0		0.0%		size, and woody plants less than 3.28 ft tall.
0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
0		0.0%		height.
0	= To	otal Cove	r	
	0 0 87 15 5 2 0 0 0 0 22 50 7 20 5 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	0	0

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FW

Soil Sampling Point: wasw039f

Profile Descri	iption: (De:	scribe to	the dep	h needed to	documer	nt the indi	cator or o	onfirm the	absence of indicators.)				
Depth		Matrix				dox Featu	res			_	_		
(inches)	Color (%_	Color	(moist)	%	Type 1	Loc2	Texture	Rem	arks		
0-6	10YR	3/2	100			-			Silty Clay Loam				
6-16	10YR	3/2	85	7.5YR	4/4	_ 15	C	PL	Clay Loam				
16-20	7.5YR	3/2	80						Clay Loam				
+mottle	10YR	3/1	20						Clay Loam				
							-						
						_	-						
		-	-		-			-					
						-	-						
¹ Type: C=Conc	centration. D	=Depletio	n. RM=R	educed Matrix	CS=Cove	red or Coat	ed Sand G	rains ² Loo	cation: PL=Pore Lining. M=N	latrix			
Hydric Soil I	ndicators:								Indicators for Proble	matic Hydric	c Soils: 3		
Histosol (A	A1)					w Surface ((S8) (LRR	R,	2 cm Muck (A10) (L				
Histic Epip					A 149B)	ace (S9) (I	IDD D MI	DA 140D)	Coast Prairie Redox				
Black Histi						Mineral (F1)			5 cm Mucky Peat or				
1 — ' "	Sulfide (A4)					Matrix (F2))	☐ Dark Surface (S7)	(LRR K, L, M)			
	Layers (A5)	C	11)		leted Matr				Polyvalue Below Su	rface (S8) (LF	RR K, L)		
	Below Dark S k Surface (A		(11)			ırface (F6)			☐ Thin Dark Surface (S9) (LRR K, L)				
l —	ck Mineral (S					Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R)				
	yed Matrix (•		Red	ox Depress	sions (F8)			Piedmont Floodplain Soils (F19) (MLRA 149B)				
Sandy Red	-	31)							☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)				
Stripped M									Red Parent Material (F21) Very Shallow Dark Surface (TF12)				
	ace (S7) (LR	R R, MLRA	A 149B)						Other (Explain in R		(2)		
³ Indicators of	hvdrophytic	vegetatio	on and we	tland hydrolog	ıv must be	present, u	nless distu	rbed or prol		emarks)			
Restrictive La					<u>, </u>	· ·							
Type:													
Depth (inch	nes):								Hydric Soil Present?	Yes 💿	No O		
Remarks:	, ,								1				
rtornarits.													



Photo File: DSCN8042.JP

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:



Photo File: DSCN8043.JPG

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:



No Photo

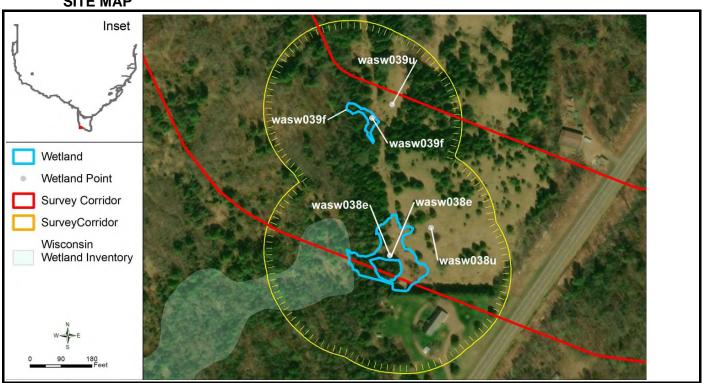
No Photo

Photo File: None.bmp	Orientation:	-facing	Photo File: None.bmp	Orientation:	-facing
Long/Easting:	Lat/Northing:		Long/Easting:	Lat/Northing:	
Description:			Description:		

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION wasw038e, wasw039f					
Project name: Line 5 Relocation Project	Evaluator(s): Emily Stulik and Wes Conway				
File #:	Date of visit(s): 10/10/2019				
Location: PLSS: WI46 T44N R2W SN7	Ecological Landsca North Central Forest	ipe:			
Lat: 46.31003138 (wasw038e)	Watershed:				
County: Ashland Town/City/Village: Mellen	Upper bad river 0401030	203			
SITE DESCRIPTION					
Soils: Mapped Type(s): Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony (038e), Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony (039f) Field Verified:	WWI Class: None (038e), None (039f) Wetland Type(s): 038e sedge meadow 039f forested				
Yes	Wetland Size: 0.10	Wetland Area Impacted			
	Vegetation: Plant Community D	Description(s):			
Hydrology:	Picea glauca Ahies hals:	amea Populous tremuloides Salix petiolaris			
Groundwater processes, geomorphic and topographic processes. High water table and drainage pattterns observed	Picea glauca, Abies balsamea, Populous tremuloides, Salix petiolaris, Hypericum perforatum, Scirpus cyperinus (038e), Tsuga canadensis, Betula alleghaniensis, Abies balsamea, Ostrya virginiana, Dryopteris intermedia, Carex crinita (039f)				

SITE MAP



SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1		Р	Used for recreation (hunting, birding, hiking, etc.). List: located on private parcels, may be used for private hunting/recreation
2	N		Used for educational or scientific purposes
3	Υ		Visually or physically accessible to public
4	N		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_	N		In or adjacent to RED FLAG areas
5	IN		List:
6	N		Supports or provides habitat for endangered, threatened or special concern species
7		Р	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ		Wetland and contiguous habitat >10 acres
2	Υ		3 or more strata present (>10% cover)
3	N		Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N		Occurs in a Joint Venture priority township
6	Υ		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
			Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ		plans
8	Υ		Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present > 45 days
10	N		Standing water provides habitat for amphibians and aquatic invertebrates
11	N		
12	N		Seasonally exposed mudflats present
	IN		Provides habitat scarce in the area (urban, agricultural, etc.)
FA	N		Fish and Aquatic Life Habitat
1			Wetland is connected or contiguous with perennial stream or lake
2	N		Standing water provides habitat for amphibians and aquatic invertebrates
3	N		Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N		Vegetation is inundated in spring
SP			Shoreline Protection
1	N/A		Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable
2	N/A		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
			water levels or high flows – if no, not applicable
3	Υ		Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ		Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ		Water flow through wetland is NOT channelized
3	Υ		Dense, persistent vegetation
4	Υ		Evidence of flashy hydrology
5	N		Point or non-point source inflow
6	N		Impervious surfaces cover >10% of land surface within the watershed
7	N		Within a watershed with ≤10% wetland
8			Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N		Provides substantial storage of storm and floodwater based on previous section
2	Υ		Basin wetland or constricted outlet
3	Υ		Water flow through wetland is NOT channelized
4	N		Vegetated wetland associated with a lake or stream
5	Υ		Dense, persistent vegetation
6	N		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N		Stormwater or surface water from agricultural land is major hydrology source
8	N		Discharge to surface water
	N		Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Υ		Springs, seeps or indicators of groundwater present
	N		
	Y		Location near a groundwater divide or a headwater wetland
3			Wetland remains saturated for an extended time period with no additional water inputs
4	N N		Wetland soils are organic Wetland is within a wellhead protection area
5			L MUCTIONA IN MITNIN A MAUNAGA PROTOCTION ARAC

Section 1 Comments (Refer to Section 1 numbers) WH 4: state rd 13 located within 100m buffer of wetlands WH 6, 7, 8: wetland located within forested blocs. Potential to provide nesting bird habitat, large mammal habitat. Wetlands surrounded by upland habitat. ST 1, 4: wetlands are located in toe of slope or on sloping hillsides adjacent to swales. Geomorphic position and drainage patterns observed GW 1,3: water table and saturation observed. Hydrology not linked to stream Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Potential Species/Habitat Observed

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)* wasw038e = yellow; wasw039f = green

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	<mark>10-20%</mark> wasw038e	<10% wasw039f
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented wasw039f
NHI plant community ranking	S4 wasw038e	S3 wasw039f	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common both	Uncommon	Rare
FQI (optional)	<13	13-23 wasw038e	23-32 wasw039f	>32
Mean C (optional)	<2.4	2.4-4.2 wasw038e	4.3-4.7	>4.7 wasw039f

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Abies balsamea*	balsam fir	5	wasw038e; wasw039f	60%
Acer rubrum	red maple	3	wasw039f	15%
Acer saccharum	hard maple, sugar maple	5	wasw039f	12%
Amelanchier sanguinea	New England serviceberry, round-leaved serviceberry	7	wasw038e	12%
Betula alleghaniensis*	yellow birch	7	wasw039f	35%
Carex crinita*	fringed sedge	6	wasw039f	20%
Dryopteris intermedia*	fancy wood fern, glandular wood fern, intermediate	7	wasw039f	50%
Epilobium ciliatum	American willow-herb, hairy willow-herb	3	wasw038e	3%
Glyceria striata	fowl manna grass, fowl meadow grass	4	wasw038e	2%
Hypericum perforatum*	common St. John's-wort, Klamath-weed, St. John's- wart	0	wasw038e	25%
Juncus effusus	common rush, soft rush	4	wasw038e	15%
Juniperus virginiana	eastern red-cedar	3	wasw038e	10%
Ostrya virginiana*	eastern hop-hornbeam, ironwood	5	wasw039f	5%
Persicaria sagittata	arrow-leaved tearthumb, arrow vine	6	wasw038e	2%
Phalaris arundinacea	reed canary grass	0	wasw039f	5%
Picea glauca*	white spruce	7	wasw038e	12%
Populus tremuloides*	aspen, quaking aspen	2	wasw038e	18%
Rubus pubescens	dwarf red raspberry	7	wasw039f	7%
Salix bebbiana	beaked willow, Bebb's willow	7	wasw038e	12%
Salix petiolaris*	meadow willow	6	wasw038e; wasw039f	22%
Scirpus cyperinus*	wool-grass	4	wasw038e	50%
Solidago gigantea	giant goldenrod	3	wasw039f	5%
Symphyotrichum puniceum	swamp aster	5	wasw038e	2%
Tsuga canadensis*	eastern hemlock, hemlock, northern hemlock	8	wasw039f	25%

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

dominar	dominant plants in each strata of 039f with conservative c values. 039e dominated by invasive Hypericum					

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment	Buffer	Historic	Impact	Relative	Stressor		
Area (AA)			Level*	Frequency**			
					Filling, berms (non-impounding)		
					Drainage – tiles, ditches		
					Hydrologic changes - high capacity wells,		
					impounded water, increased runoff		
					Point source or stormwater discharge		
					Polluted runoff		
					Pond construction		
					Agriculture – row crops		
					Agriculture – hay		
					Agriculture – pasture		
Х	Х		L	С	Roads or railroad		
Х	х		L	С	Utility corridor (above or subsurface)		
					Dams, dikes or levees		
					Soil subsidence, loss of soil structure		
					Sediment input		
					Removal of herbaceous stratum – mowing,		
					grading, earthworms, etc.		
					Removal of tree or shrub strata – logging,		
					unprescribed fire		
					Human trails – unpaved		
					Human trails – paved		
					Removal of large woody debris		
Х	х		М	UC	Cover of non-native and/or invasive species		
					Residential land use		
Х	х		L	С	Urban, commercial or industrial use		
					Parking lot		
					Golf course		
					Gravel pit		
					Recreational use (boating, ATVs, etc.)		
					Excavation or soil grading		
					Other (list below):		
		1					

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

etland located 100 m from state rd
etland located within electric utility corridor
on native hypericum observed, dominant and spreading in emergent wetland

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE									
	Low	Medium	High	Exceptional	NA					
Floristic Integrity		x								
Human Use Values	х									
Wildlife Habitat		х								
Fish and Aquatic Life Habitat	х									
Shoreline Protection					x					
Flood and Stormwater Storage		х								
Water Quality Protection		х								
Groundwater Processes		х								

RATIONALE
conservative species in forested wetland, invasive species in emergent wetland
private property, adjacent to house
not associated with stream, no standing water. Contiguous with large forested tracts
No habitat or species observed
N/A
wetlands located at toe of slope and on slope, basin wetlands
basin wetland, dense persistent emergent vegetation
some evidence of groundwater processes

Section 4: Project Impact Assessment

Brief Project Description
Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling. Tree removal	medium
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation and tree removal for construction.	medium
Cumulative Impacts	Operational vegetation maintenance	low
Spatial/Habitat Integrity	Temporary construction impacts	low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland	Sampling Date: 10-Oct-19
Applicant/Owner: Enbridge	State: W	Sampling Point: wasw039u
Investigator(s): ES/WC	Section, Township, Range:	s. 7 T. 44N R. 2W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex,	none): rolling Slope: 0.0 % / 0.0
Subregion (LRR or MLRA): LRR K Lat.:	46.31123841 Lon	g.: -90.67337718
Soil Map Unit Name: Gogebic-Metonga-Rock outcrop complex, 10 to	35 percent slopes, very stony	NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of y	year? Yes ● No ○	(If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significant	tly disturbed? Are "Norma	I Circumstances" present? Yes ● No ○
		explain any answers in Remarks.)
Summary of Findings - Attach site map showing	•	•
Hydrophytic Vegetation Present? Yes No •		· ·
Hydric Soil Present? Yes ○ No •	Is the Sampled Area within a Wetland?	Yes ○ No •
Wetland Hydrology Present? Yes ○ No •	Within a Wettana.	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)	
Hydrology		
Drift deposits (B3)	e Odor (C1) heres along Living Roots (C3) uced Iron (C4) uction in Tilled Soils (C6) te (C7)	Secondary Indicators (minimum of 2 required) Surface Soil Cracks (B6) ✓ Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) Microtopographic Relief (D4) FAC-neutral Test (D5)
Field Observations: Surface Water Present? Yes No Depth (inches):		
F (drology Present? Yes O No 🗨
(includes capillary fringe) Yes V No Depth (inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos, previous inspections), if ava	ailable:
Remarks:		
Nethanks.		

Tree Stratum (Plot size: 30') 1. Juniperus virginiana 2. Abies balsamea	Absolute % Cover	Re	ecies? - el.Strat.	Indicator	Dominance Test worksheet:		
1 _ Juniperus virginiana 2 _ Abies balsamea	15		over	Status	Number of Dominant Species		
		V	60.0%	FACU	That are OBL, FACW, or FAC:1 (A)		
	10	~	40.0%	FAC			
3	0		0.0%		Total Number of Dominant Species Across All Strata: 5 (B)		
4			0.0%		Species Across Air Strata.		
5			0.0%		Percent of dominant Species		
5	0		0.0%		That Are OBL, FACW, or FAC: 20.0% (A/B)		
7	0		0.0%		Prevalence Index worksheet:		
	25	– To	otal Cove	-	Total % Cover of: Multiply by:		
Sapling/Shrub Stratum (Plot size: 15')		- 10	otal covel		0BL species x 1 =		
1. Prunus serotina	20	✓	80.0%	FACU	FACW speci es		
2. Lonicera canadensis	5	✓	20.0%	FACU	FAC species 10 x 3 = 30		
3	0		0.0%		l '		
4			0.0%		FACU speci es $\frac{145}{2}$ x 4 = $\frac{580}{2}$		
5			0.0%		UPL species x 5 =0		
5	0		0.0%		Column Totals: 170 (A) 640 (B)		
7	0		0.0%		Prevalence Index = B/A =3.765_		
	25	= To	otal Cove	-			
Herb Stratum (Plot size: 5')					Hydrophytic Vegetation Indicators: Rapid Test for Hydrophytic Vegetation		
Solidago altissima	5		4.2%	FACU			
2. Lonicera canadensis	0		0.0%	FACU	☐ Dominance Test is > 50%		
3. Poa pratensis	100	✓	83.3%	FACU	Prevalence Index is ≤3.0 ¹		
1. Solidago gigantea	15		12.5%	FACW	 ✓ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 		
5	0		0.0%		Problematic Hydrophytic Vegetation ¹ (Explain) 1 Indicators of hydric soil and wetland hydrology must		
5.	0		0.0%				
7	0		0.0%				
3.	0		0.0%		be present, unless disturbed or problematic.		
9	0		0.0%		Definitions of Vegetation Strata:		
)	0		0.0%		Tree Mondy plants 2 in (7.6 cm) or more in diameter		
	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
2.	0	\Box	0.0%				
			otal Cove	,	Sapling/shrub - Woody plants less than 3 in. DBH and		
Noody Vine Stratum (Plot size: 15')		- 10	otal covel		greater than 3.28 ft (1m) tall		
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of		
2	0		0.0%		size, and woody plants less than 3.28 ft tall.		
	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in		
	0		0.0%		height.		
	0	= To	otal Cove	•			
3 4	0		0.0%		Woody vine - All woody vines greatheight.		
					Hydrophytic Vegetation Present? Yes No No		

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FW

Soil Sampling Point: wasw039u

Profile Descr	iption: (Des	cribe to	the dept	h needed to	documen	t the indi	cator or c	onfirm the	absence of indicators.)		
Depth		Matrix				dox Featu					
(inches)	Color (ı		%_	Color (moist)	%	Type 1	Loc ²	Texture	Remarks	
0-4	10YR	3/2	100						Clay Loam		
4-10	10YR	3/2	30	7.5YR	4/6	3	C		Clay Loam		
+mottle	7.5YR	4/4	67						Clay Loam		
10-24	10YR	3/2	15						Clay Loam		
+mottle	7.5YR	4/4	85						Clay Loam		
				-							
					-				'		
				-	-	-					
1 Type: C. Con	contration D	Donlotic	n DM D	duced Metrix		and or Coat	and Sand C	roins 21 os	ation, DL Doro Lining M	Matrix	
• •		=Depletic	n. Kivi=Ke	educed Matrix,	CS=Cover	ed or Coat	eu sanu G	rains -Loc	ation: PL=Pore Lining. M=		
Hydric Soil I Histosol (□ Dolvi	valua Balas	w Surface	(CO) (LDD	2	Indicators for Proble	ematic Hydric Soils: 3	
	pedon (A2)				A 149B)	w Surface	(36) (LKK	ν,		(LRR K, L, MLRA 149B)	
Black Hist				Thin	Dark Surf	ace (S9) (LRR R, ML	RA 149B)		x (A16) (LRR K, L, R)	
	Sulfide (A4)			Loar	ny Mucky I	Mineral (F1) LRR K, L)	_	or Peat (S3) (LRR K, L, R)	
Stratified	Layers (A5)					Matrix (F2))		Dark Surface (S7)		
Depleted	Below Dark S	Surface (A	(11)		eted Matri				Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)		
Thick Dar	k Surface (A1	12)		_		ırface (F6)	>		☐ Iron-Manganese Masses (F12) (LRR K, L, R)		
	ıck Mineral (S					Surface (F	/)			in Soils (F19) (MLRA 149B)	
	eyed Matrix (S4)		☐ Redo	x Depress	sions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy Re									Red Parent Material (F21)		
	Matrix (S6)		. 4.400)						Very Shallow Dark Surface (TF12)		
	ace (S7) (LRI								Other (Explain in F	Remarks)	
³ Indicators of	f hydrophytic	vegetatio	on and we	tland hydrolog	y must be	present, u	nless distu	rbed or prob	plematic		
Restrictive L	ayer (if obs	erved):									
Type:									Hydric Soil Present?	Yes ○ No ●	
Depth (inc	hes):								nyunc son Present?	Yes ∪ No •	
Remarks:											



Photo File: DSCN8050.JP

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:



Photo File: DSCN8051.JPG

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:





No Photo

Photo File: DSCN8052.JP	Orientation:	-facing	Photo File: None.bmp	Orientation:	-facing
Long/Easting:	Lat/Northing:		Long/Easting:	Lat/Northing:	
Description:			Description:		

No Photo

No Photo

Photo File:	None.bmp	Orientation:	-facing	Photo File:	lone.bmp	Orientation:	-facing
	Long/Easting:	Lat/Nor	thing:	L	ong/Easting:	Lat/Northing:	
Description	า:			Description:			
]			

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: 2019-10-17	
Applicant/Owner: Enbridge				
Investigator(s): BRG/DGL	Section, Township	o, Range: <u>044N-003W-</u>	-12	
Landform (hillslope, terrace, etc.): Depression				
Subregion (LRR or MLRA): Northcentral Forests Lat: 46				
Soil Map Unit Name: Gogebic, very stony-Pence, very st				
Are climatic / hydrologic conditions on the site typical for thi				
Are Vegetation, Soil, or Hydrologys				
Are Vegetation, Soil, or Hydrology r				
SUMMARY OF FINDINGS – Attach site map	showing sampling poi	nt locations, transect	s, important features, etc.	
Hydrophytic Vegetation Present? Yes _ ✓ _ N Hydric Soil Present? Yes _ ✓ _ N Wetland Hydrology Present? Yes _ ✓ _ N	No within a W	npled Area /etland? Yes✓ onal Wetland Site ID:		
Remarks: (Explain alternative procedures here or in a se	parate report.)			
The wetland is a hardwood swamp don logging.	Timated by Fraxillus	Tilgra, and has bee	ir disturbed by past	
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)	
Primary Indicators (minimum of one is required; check all	that apply)	Surface So		
	ter-Stained Leaves (B9)	Drainage P		
	uatic Fauna (B13)	Moss Trim Lines (B16)		
	rl Deposits (B15) drogen Sulfide Odor (C1)	Dry-Season Water Table (C2) Crayfish Burrows (C8)		
	dized Rhizospheres on Living		Visible on Aerial Imagery (C9)	
	sence of Reduced Iron (C4)		Stressed Plants (D1)	
	cent Iron Reduction in Tilled So			
	n Muck Surface (C7)	Shallow Aquitard (D3)		
	er (Explain in Remarks)		raphic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutra		
Field Observations:				
	epth (inches):			
	epth (inches): 10			
Saturation Present? Yes _ ✓ No De (includes capillary fringe)	pth (inches): 8	Wetland Hydrology Prese	ent? Yes <u>√</u> No	
Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspec	tions), if available:		
Remarks:				
The hydrologic regime is seasonally sa	aturated, with rechar	ge hydrology. The v	wetland is a closed	
depression in which small pools of star	nding water are pres	ent.		

'EGETATION – Use scientific names of plants.		Sampling Point: wasa141f_w		
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. <i>Fraxinus nigra</i>	40.0	Y	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. <u>Betula alleghaniensis</u>	10.0	N	FAC	Total Number of Dominant
3. <u>Acer rubrum</u>	5.0	N	FAC	Species Across All Strata: 13 (B)
4. <u>Abies balsamea</u>	5.0	N	FAC	Percent of Dominant Species
5. <u>Thuja occidentalis</u>	5.0	N	<u>FACW</u>	That Are OBL, FACW, or FAC: 69.23 (A/B)
6. <u>Tsuga canadensis</u>	_5.0_	N	<u>FACU</u>	Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	70.0	= Total Cov	/er	OBL species <u>15</u> x 1 = <u>15</u>
Sapling/Shrub Stratum (Plot size:)				FACW species57 x 2 =114
1. <u>Abies balsamea</u>	20.0	Y	FAC	FAC species <u>55</u> x 3 = <u>165</u>
2				FACU species 20 x 4 = 80
3				UPL species $0 \times 5 = 0$ Column Totals: 147 (A) 374 (B)
4				
5				Prevalence Index = B/A = 2.54
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	20	= Total Cov	/er	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹
1. <u>Juncus effusus</u>	10.0	Y	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Bromus ciliatus</u>	5.0	Y	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Carex gracillima</u>	5.0	Y	<u>FACU</u>	
4. <u>Dryopteris intermedia</u>		Y	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Epigaea repens</u>	5.0	Y	NI_	Definitions of Vegetation Strata:
6. <i>Glyceria striata</i>	5.0	Y	OBL	
7. <u>Prunella vulgaris</u>	5.0	Y	FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. <u>Verbena hastata</u>		Y	FACW	Sapling/shrub – Woody plants less than 3 in. DBH
9. <i>Fragaria virginiana</i>		Y	<u>FACU</u>	and greater than or equal to 3.28 ft (1 m) tall.
10. Symphyotrichum lateriflorum	5.0	Y	FAC	Herb – All herbaceous (non-woody) plants, regardless
11. Brachyelytrum erectum	5.0	Y	FACU	of size, and woody plants less than 3.28 ft tall.
12. <u>Rubus pubescens</u>	2.0	N	FACW	Woody vines – All woody vines greater than 3.28 ft in
	62	= Total Cov	/er	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation
		= Total Cov	/er	Present? Yes No
Remarks: (Include photo numbers here or on a separate s	sheet.)			

The wetland is dominated by a canopy of Fraxinus nigra, with disturbed herbaceous vegetation. Fraxinus nigra and Abies balsamea seedlings are present in the herbaceous layer.

SOIL Sampling Point: wasa141f_w

Profile Desc	cription: (Describe to	o the de	oth needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix				x Feature	1	. 2		
(inches)	Color (moist) 7.5YR 3/2	<u>%</u> 05	Color (n 7.5YR			Type'	Loc ²	<u>Texture</u>	<u>Remarks</u>
6-10			7.5YR		5	<u> </u>	N/I	CL	
	5YR 4/4				5	C	IVI_	CL	
10-20	3111 4/4	_95_	3111	3/0			IVI		
			-		-				
		-			· 				
			-				-		
¹ Type: C=C	oncentration, D=Deple	etion, RM	I=Reduced N	/latrix, MS	S=Masked	Sand Gr	ains.	² Location:	: PL=Pore Lining, M=Matrix.
Hydric Soil									for Problematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2)			ilue Belov R A 149B)	w Surface	(S8) (LRI	RR,		Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)
Black H	istic (A3)		Thin D	ark Surfa	ice (S9) (I		LRA 149B)	5 cm N	flucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)			-	/lineral (F Matrix (F2		, L)		urface (S7) (LRR K, L) lue Below Surface (S8) (LRR K, L)
	d Below Dark Surface	(A11)		ed Matrix		•)			ark Surface (S9) (LRR K, L)
	ark Surface (A12)				rface (F6)				anganese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1) Bleyed Matrix (S4)			ed Dark : Depress	Surface (F ions (F8)	. 7)			ont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy F	Redox (S5)				` ,			Red Pa	arent Material (F21)
	Matrix (S6) rface (S7) (LRR R, M	LRA 149	В)						hallow Dark Surface (TF12) Explain in Remarks)
	f hydrophytic vegetati	on and w	etland hydro	logy mus	t be prese	ent, unles:	s disturbed	or problematic	i.
Type:	Layer (if observed):								
l	ches):							Hydric Soil	Present? Yes <u>√</u> No
Remarks:									
Dark clay	y loam over red	d clay	with red	ox thro	oughou	ut the p	orofile.		



wasa141f_w_E



wasa141f_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): KDF/DGL/BRG			
File #: wasa141	Date of visit(s): 10/17/2019			
Location: PLSS: <u>044N-003W-12</u> , <u>044N-002W-07</u>	Ecological Landsca North Central Forest	ape:		
Lat: 46.310387 Long: -90.674434 County: Ashland Town/City/Village: Morse town	Watershed: LS14, Upper Bad River			
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class: T3/5K			
5172C Gogebic, very stony-Pence, very stony-Cathro complex, 809C Gogebic-Metonga-Rock outcrop complex,	Wetland Type(s): PFO - Hardwood swamp			
Field Verified:				
Series not verified. The soils consist of a clay loam over a clay.	Wetland Size: 0.51	Wetland Area Impacted 0.51		
Hydrology:	Vegetation: Plant Community D			
The hydrologic regime is seasonally saturated with recharge hydrology. Shallow pockets of standing water are present within the wetland.	dominate shrub ve dominant herbaced	ninated by Fraxinus nigra. The getation is Abies balsamea. The bus vegetation is variable, and omoides and Glyceria striata.		

SITE MAP		

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
F			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
0	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Ν	Υ	plans
0			Part of a large habitat block that supports area sensitive species
8	N N	Y	
9	N	N	Ephemeral pond with water present > 45 days
10	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	<u>N</u>	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA	_		Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Y	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N.I	N.I	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	N	N	water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	1 1	11	Water Quality Protection
1	N	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	<u>т</u> Ү	Y	Water flow through wetland is NOT channelized
4		N Y	Vegetated wetland associated with a lake or stream
5	N N		Dense, persistent vegetation
6	N_	N	
H	N_	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N_	N	Stormwater or surface water from agricultural land is major hydrology source
8	<u>N</u>	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
			1 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

Wildlife	Hahita	t and Species Observation (including amphibians and reptiles)
List: dire	ect ob	servation, tracks, scat, other sign; type of habitat: nesting, migratory,
winter, e	etc.	
Observed Pote	ential	Species/Habitat/Comments
١	Υ	Avians, Herpetofauna, mammals, insects
Υ	Υ	Chickadee
l l	1	
Fish and	d Aqua	tic Life Habitat and Species Observations servation, spawning, nursery areas, etc.
LIST. UII	ect on	servation, other sign, type of habitat. hesting, spawning, nursery areas, etc.
Observed Pote	ential	Species/Habitat
	Υ	Aquatic invertebrates

Section 1 Comments (Refer to Section 1 numbers)

HU-1: deer stand located nearby HU-4: disturbed area WH-10: shallow standing water is present within wetland

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

Train definition integrity (directly)							
	Low	Medium	High	Exceptional			
Invasive species cover	> 50%	20-50%	10-20%	<10%			
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented			
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)			
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare			
FQI (optional)	<13	13-23	23-32	>32			
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7			

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Common
Betula alleghaniensis			PFO	Common
Acer rubrum			PFO	Uncommon
Abies balsamea			PFO	Common
Thuja occidentalis			PFO	Uncommon
Tsuga canadensis			PFO	Uncommon
Juncus effusus			PFO	Common
Bromus ciliatus			PFO	Uncommon
Carex gracillima			PFO	Uncommon
Dryopteris intermedia			PFO	Uncommon
Epigaea repens			PFO	Uncommon
Glyceria striata			PFO	Uncommon
Prunella vulgaris			PFO	Uncommon
Verbena hastata			PFO	Uncommon
Fragaria virginiana			PFO	Uncommon
Symphyotrichum lateriflorum			PFO	Uncommon
Brachyelytrum erectum			PFO	Uncommon
Rubus pubescens			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The vegetation is comprised of native species expected within the plant community.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor		
. ,					Filling, berms (non-impounding)		
					Drainage – tiles, ditches		
					Hydrologic changes - high capacity wells,		
					impounded water, increased runoff		
	Х		M	U	Point source or stormwater discharge		
					Polluted runoff		
					Pond construction		
					Agriculture – row crops		
					Agriculture – hay		
					Agriculture – pasture		
	Х		M	U	Roads or railroad		
					Utility corridor (above or subsurface)		
					Dams, dikes or levees		
					Soil subsidence, loss of soil structure		
					Sediment input		
V	Х		М		Removal of herbaceous stratum – mowing,		
X	^		IVI	С	grading, earthworms, etc.		
Х	Х	Х	Н	С	Removal of tree or shrub strata – logging,		
^	^	^	П	C	unprescribed fire		
					Human trails – unpaved		
					Human trails – paved		
					Removal of large woody debris		
	Χ		М	U	Cover of non-native and/or invasive species		
					Residential land use		
					Urban, commercial or industrial use		
					Parking lot		
					Golf course		
					Gravel pit		
					Recreational use (boating, ATVs, etc.)		
				Excavation or soil grading			
				Other (list below):			

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

П	The wetland and surrounding area is influenced by earthworm activity and proximity to a paved roadway within the
	wetland buffer.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values		✓			
Wildlife Habitat		√			
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage		/			
Water Quality Protection		1			
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Native vegetation, no invasive species
Human Use Values	Potentially used for hunting purposes
Wildlife Habitat	Multiple strata represented, some shallow standing water present, part of larger forested habitat block
Fish and Aquatic Life Habitat	Standing water with potential to support aquatic invertebrates but not fish
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed basin, moderately vegetated
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: 2019-10-17		
Applicant/Owner: Enbridge					
Investigator(s): BRG/DGL	Section, Tow	nship, Range: <u>044N-003W</u>	<i>'</i> -12		
Landform (hillslope, terrace, etc.): Side slope					
Subregion (LRR or MLRA): Northcentral Forests L	at: 46.310565	Long: -90.674447	Datum: WGS84		
Soil Map Unit Name: Gogebic-Metonga-Rock out					
Are climatic / hydrologic conditions on the site typica					
Are Vegetation, Soil, or Hydrology _					
Are Vegetation, Soil, or Hydrology _					
SUMMARY OF FINDINGS – Attach site	map showing sampling	point locations, transec	ts, important features, etc.		
Hydrophytic Vegetation Present? Yes	110	Sampled Area			
	No <u>√</u> withir	a Wetland? Yes	No <u>√</u>		
Wetland Hydrology Present? Yes		optional Wetland Site ID:			
Remarks: (Explain alternative procedures here or	in a separate report.)	a forcet that has been	logged in the neet		
The upland is located on a small h	illi in a disturbed youn	g forest that has been	n logged in the past.		
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Ind	icators (minimum of two required)		
Primary Indicators (minimum of one is required; ch	eck all that apply)	Surface So	oil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage I	Drainage Patterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim	Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)	Dry-Seaso	Dry-Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish B	surrows (C8)		
	Oxidized Rhizospheres on Li		Visible on Aerial Imagery (C9)		
	Presence of Reduced Iron (C		Stressed Plants (D1)		
	Recent Iron Reduction in Till		nic Position (D2)		
	Thin Muck Surface (C7)		quitard (D3)		
	Other (Explain in Remarks)		graphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neut	ral Test (D5)		
Field Observations:	/ Danth (inches)				
	Depth (inches):				
	Depth (inches):		sent? Yes No <u>√</u>		
(includes capillary fringe)	/ Depth (inches):		sent? res No		
Describe Recorded Data (stream gauge, monitorin	g well, aerial photos, previous in	spections), if available:			
Remarks:					
No indicators of wetland hydrology	were observed.				

VEGETATION – Use scientific names of plants.

EGETATION – Use scientific names of plants.				Sampling Point: <u>wasa141_u</u>		
Tree Stratum (Plot size:30')	Absolute % Cover		Indicator Status	Dominance Test worksheet:		
1. Acer rubrum				Number of Dominant Species That Are OBL, FACW, or FAC:5(A)		
2. Acer saccharum						
3. <u>Tilia americana</u>				Total Number of Dominant Species Across All Strata: 11 (B)		
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 45.45 (A/B)		
5						
6.				Prevalence Index worksheet:		
7				Total % Cover of: Multiply by:		
	25.0	= Total Co	ver	OBL species x 1 =0		
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>5</u> x 2 = <u>10</u>		
1. <u>Corylus cornuta</u>				FAC species 41 x 3 = 123 FACU species 80 x 4 = 320		
2. <u>Abies balsamea</u>	20.0	Y	<u>FAC</u>	UPL species		
3. Quercus rubra	5.0	N	<u>FACU</u>	Column Totals: 126 (A) 453 (B)		
4. <u>Acer saccharum</u>	5.0	N	<u>FACU</u>			
5. <u>Prunus serotina</u>	5.0	N	FACU	Prevalence Index = B/A = 3.60		
3				Hydrophytic Vegetation Indicators:		
7				1 - Rapid Test for Hydrophytic Vegetation		
		= Total Co		2 - Dominance Test is >50%		
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹		
1. <u>Pyrola elliptica</u>	10.0	Υ	FACU	 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) 		
2. <u>Thuja occidentalis</u>			FACW			
3. <u>Brachyelytrum erectum</u>			FACU			
		Y		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
4. Carex pedunculata						
5. <u>Prunus serotina</u>			FACU	Definitions of Vegetation Strata:		
6. <u>Abies balsamea</u>			FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter		
7. <u>Acer rubrum</u>			<u>FAC</u>	at breast height (DBH), regardless of height.		
8				Sapling/shrub – Woody plants less than 3 in. DBH		
9				and greater than or equal to 3.28 ft (1 m) tall.		
10	<u> </u>			Herb – All herbaceous (non-woody) plants, regardless		
11				of size, and woody plants less than 3.28 ft tall.		
12				Woody vines – All woody vines greater than 3.28 ft in		
	<u>36</u>	= Total Co	ver	height.		
Woody Vine Stratum (Plot size:)						
1						
2.						
3.				Hydrophytic		
4				Vegetation		
		= Total Co	ver	Present? Yes No✓		
Remarks: (Include photo numbers here or on a separate s	sheet.)					

SOIL Sampling Point: wasa141_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (in all as)	Matrix	0/		x Features		1.2.2	Tautuna	Damada
(inches) 0-4	7.5YR 3/2	100	Color (moist)	%	Type'	Loc ²	Texture SIL	Remarks
4-18	7.5YR 5/3						SIL	_
¹Type: C=C Hydric Soil Histoso Histic E Black H Hydrog Stratifie Deplete Thick D		letion, RM=	Reduced Matrix, MS Polyvalue Belov MLRA 149B) Thin Dark Surfa Loamy Mucky N Loamy Gleyed I Depleted Matrix Redox Dark Sur	v Surface ce (S9) (L dineral (F2 Matrix (F2 (F3) rface (F6)	(S8) (LRF LRR R, MI I) (LRR K	R R, LRA 149B)	Coast Prairie Redo 5 cm Mucky Peat o Dark Surface (S7) Polyvalue Below S Thin Dark Surface Iron-Manganese M	natic Hydric Soils ³ : LRR K, L, MLRA 149B) Ex (A16) (LRR K, L, R) Ex Peat (S3) (LRR K, L, R) (LRR K, L) Eurface (S8) (LRR K, L)
Sandy F	Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B	Redox Depress	ions (F8)			Mesic Spodic (TA6 Red Parent Materi Very Shallow Dark Other (Explain in R	Surface (TF12)
	of hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Type:	Layer (if observed):							
'' -	iches):						Hydric Soil Present?	Yes No <u></u> ✓
Remarks: No hydri	c soil indicator	s obser	ved.					



wasa141_u_E



wasa141_u_W

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampl	ing Date: 09-Oct-19
Applicant/Owner: Enbridge	State: WI Sampling Po	int: wasw038e
Investigator(s): ES/WC	Section, Township, Range: S. 7 T. 44N	R. 2W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): concave	Slope: 21.2 % / 12.0
Subregion (LRR or MLRA): LRR K Lat.:	46.31003138 Long.: -90.67345385	Datum: WGS 1984
Soil Map Unit Name: Gogebic-Metonga-Rock outcrop complex, 6 to 1		None
	<u> </u>	
Are climatic/hydrologic conditions on the site typical for this time of y	(21 no) explain in Remai	. N (a) N (
Are Vegetation U , Soil U , or Hydrology U significant	y disturbed? Are "Normal Circumstances" present	? Tes 🕓 INU 🔾
Are Vegetation $\ \square \ \ \ \ ,$ Soil $\ \square \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	roblematic? (If needed, explain any answers in R	emarks.)
Summary of Findings - Attach site map showing	ampling point locations, transects, imp	ortant features, et
Hydrophytic Vegetation Present? Yes No		
Hydric Soil Present? Yes No	Is the Sampled Area within a Wetland?	
Wetland Hydrology Present? Yes ● No ○		
Hydrology		
Wetland Hydrology Indicators:	_Secondary Indicators (mir	nimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (I	•
✓ Surface Water (A1) Water-Stained Le ✓ High Water Table (A2) Aguatic Fauna (B		•
✓ High Water Table (A2) ☐ Aquatic Fauna (B ☐ Saturation (A3) ☐ Marl Deposits (B1		•
Water Marks (B1) Hydrogen Sulfide		
I my magan samus	eres along Living Roots (C3) Saturation Visible on	•
☐ Drift deposits (B3) ☐ Presence of Redu	, , , , , , , , , , , , , , , , , , ,	• , . ,
	tion in Tilled Soils (C6) Geomorphic Position	` '
☐ Iron Deposits (B5) ☐ Thin Muck Surfac	· · · · · · · · · · · · · · · · · · ·)
Inundation Visible on Aerial Imagery (B7) Other (Explain in	Remarks) Microtopographic Rel	ief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No Depth (inches):	2	
Water Table Present? Yes No Depth (inches):		● No ○
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes	● NO ○
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:	
Remarks:		

Absolute % Cover 12 25 15 5 0	Re	21.1% 43.9% 26.3% 8.8%	FACU FACU FACU	Number of Dominant Species That are OBL, FACW, or FAC:
12 25 15 5 0	>	21.1% 43.9% 26.3% 8.8%	FACU FAC	That are OBL, FACW, or FAC: 4 (A) Total Number of Dominant
25 15 5 0	'	43.9% 26.3% 8.8%	FAC	Total Number of Dominant
15 5 0	✓	26.3% 8.8%		
5	\equiv	8.8%	FACU	Charles Assess All Charles 7 (D)
0			EACH	Species Across All Strata: 7 (B)
			FACU	Percent of dominant Species
U		0.0%		That Are OBL, FACW, or FAC: 57.1% (A/B)
0		0.0%		
	_	0.0%		Prevalence Index worksheet:
:	= To	otal Cove	r	Total % Cover of: Multiply by:
3		4.2%	FACU	OBL species $71 \times 1 = 71$
12		16.7%	FACW	FACW species $35 \times 2 = 70$
20	~	27.8%	FACW	FAC species $45 \times 3 = 135$
5		6.9%	FACU	FACU species $40 \times 4 = 160$
20	✓	27.8%	FAC	UPL species $\frac{37}{}$ x 5 = $\frac{185}{}$
12		16.7%	UPL	Column Totals: 228 (A) 621 (B)
0		0.0%		Prevalence Index = B/A = 2.724
	 = Ta		- ——— r	<u> </u>
72	•	J	•'	Hydrophytic Vegetation Indicators:
25	~	25.3%	UPL	Rapid Test for Hydrophytic Vegetation
2		2.0%	OBL	✓ Dominance Test is > 50%
50	~	50.5%	OBL	✓ Prevalence Index is ≤3.0 ¹
15		15.2%	OBL	Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2		2.0%	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
2		2.0%	OBL	Problematic flydrophytic vegetation (Explain)
3		3.0%	FACW	¹ Indicators of hydric soil and wetland hydrology must
0		0.0%		be present, unless disturbed or problematic.
0		0.0%		Definitions of Vegetation Strata:
0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
0		0.0%		at breast height (DBH), regardless of height.
0		0.0%		
99 :	= Tc	otal Cove	- — — ·	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
			-	greater than 3.26 it (1111) tall
0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
0		0.0%		size, and woody plants less than 3.28 ft tall.
0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
0		0.0%		height.
0 =	= To	otal Cove	r	
	3 12 20 5 20 12 0 72 25 2 50 15 2 2 3 0 0 0 0 0 0	3	3	3

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS

Soil Sampling Point: wasw038e

Profile Descri	iption: (Des	scribe to	the dept	h needed to docur	nent the indi	cator or o	onfirm the	e absence of indicators.)
Depth		Matrix			Redox Feat	ıres		_
(inches)	Color (%_	Color (moist		Type ¹		Texture Remarks
	10YR	2/1	98	7.5YR 3/	4 2	C	PL	Clay Loam
8-24	7.5YR	3/2	80					Sandy Clay Loam
+mottle	10YR	3/1	15					Sandy Clay Loam
+mottle	7.5YR	4/4	5					Sandy Clay Loam
						_		
						-		
								·
			-					
1 Typou C-Cond	contration D	_Doplotic	n DM-Da	duced Matrix CS_C	overed or Coa	tod Cand C		cation: PL=Pore Lining. M=Matrix
• • • • • • • • • • • • • • • • • • • •		=Depletic	III. KIMEKE	duced Matrix, CS=C	overed or Coa	teu Sanu G	orallis -LOC	-
Hydric Soil I				Polyvalue F	Below Surface	(S8) (I RP	R	Indicators for Problematic Hydric Soils: ³
Histic Epip	•			MLRA 149E		(30) (LITT	ιν,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Black Histi				Thin Dark	Surface (S9) (LRR R, ML	.RA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
	Sulfide (A4)			Loamy Mu	cky Mineral (F	l) LRR K, L	.)	☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) ☐ Dark Surface (S7) (LRR K, L, M)
Stratified I	Layers (A5)				yed Matrix (F2)		Polyvalue Below Surface (S8) (LRR K, L)
Depleted I	Below Dark S	Surface (A	11)	Depleted N				☐ Thin Dark Surface (S9) (LRR K, L)
Thick Dark	Surface (A	12)		Redox Dar				Iron-Manganese Masses (F12) (LRR K, L, R)
I — ·	ck Mineral (S	•			Oark Surface (F Oressions (F8)	-/)		Piedmont Floodplain Soils (F19) (MLRA 149B)
	yed Matrix (S4)		☐ Redox Dep	ressions (Fo)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Rec								Red Parent Material (F21)
Stripped N		D D MID	1400)					Very Shallow Dark Surface (TF12)
	ace (S7) (LRI		-					Uther (Explain in Remarks)
³ Indicators of	hydrophytic	vegetatio	n and wet	land hydrology mus	t be present, ι	ınless distu	irbed or prol	blematic
Restrictive La	ayer (if obs	erved):						
Type:								Hydric Soil Present? Yes No
Depth (inch	nes):							Hydric Soil Present? Yes W NO
Remarks:								



Photo File: DSCN8038.JPG

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:



Photo File: DSCN8040.JPG

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:





No Photo

Photo File:	DSCN8039.JPG	Orientation:	-facin	ng Photo	-ile: None.bmp	Orientation:	-facing
	Long/Easting:	La	t/Northing:		Long/Easting:	Lat/North	ing:
Description	า:			Descri	otion:		

No Photo

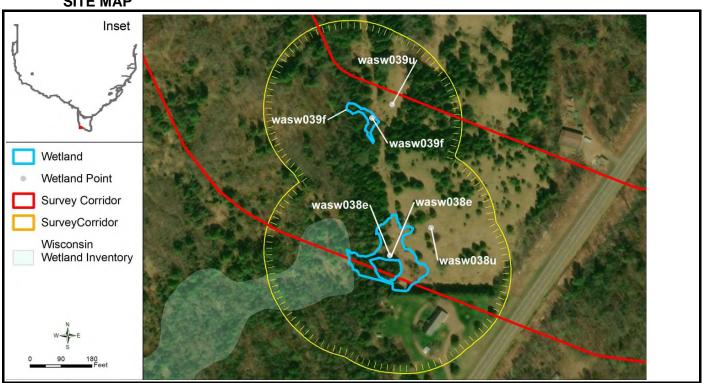
No Photo

Photo File: None.bmp	Orientation:	-facing	Photo File: None.bmp	Orientation:	-facing
Long/Easting:	Lat/Northing:		Long/Easting:	Lat/Northing:	
Description:			Description:		

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION wasw038e, wasw039f		
Project name: Line 5 Relocation Project	Evaluator(s): Emily S	tulik and Wes Conway
File #:	Date of visit(s): 10/10/2019	
Location: PLSS: WI46 T44N R2W SN7	Ecological Landsca North Central Forest	ipe:
Lat: 46.31003138 (wasw038e)	Watershed:	
County: Ashland Town/City/Village: Mellen	Upper bad river 0401030	203
SITE DESCRIPTION		
Soils: Mapped Type(s): Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony (038e), Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony (039f) Field Verified:	WWI Class: None (038e), None (039f Wetland Type(s): 038e sedge meadow 039	9f forested
Yes	Wetland Size: 0.10	Wetland Area Impacted
	Vegetation: Plant Community D	Description(s):
Hydrology:	Picea glauca Ahies hals:	amea, Populous tremuloides, Salix petiolaris,
Groundwater processes, geomorphic and topographic processes. High water table and drainage pattterns observed	Hypericum perforatum, S	Scirpus cyperinus (038e), Tsuga canadensis, pies balsamea, Ostrya virginiana, Dryopteris

SITE MAP



SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1		Р	Used for recreation (hunting, birding, hiking, etc.). List: located on private parcels, may be used for private hunting/recreation
2	N		Used for educational or scientific purposes
3	Υ		Visually or physically accessible to public
4	N		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_	N		In or adjacent to RED FLAG areas
5	IN		List:
6	N		Supports or provides habitat for endangered, threatened or special concern species
7		Р	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ		Wetland and contiguous habitat >10 acres
2	Υ		3 or more strata present (>10% cover)
3	N		Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N		Occurs in a Joint Venture priority township
6	Υ		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
			Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ		plans
8	Υ		Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present > 45 days
10	N		Standing water provides habitat for amphibians and aquatic invertebrates
11	N		
12	N		Seasonally exposed mudflats present
	IN		Provides habitat scarce in the area (urban, agricultural, etc.)
FA	N		Fish and Aquatic Life Habitat
1			Wetland is connected or contiguous with perennial stream or lake
2	N		Standing water provides habitat for amphibians and aquatic invertebrates
3	N		Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N		Vegetation is inundated in spring
SP			Shoreline Protection
1	N/A		Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable
2	N/A		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
			water levels or high flows – if no, not applicable
3	Υ		Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ		Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ		Water flow through wetland is NOT channelized
3	Υ		Dense, persistent vegetation
4	Υ		Evidence of flashy hydrology
5	N		Point or non-point source inflow
6	N		Impervious surfaces cover >10% of land surface within the watershed
7	N		Within a watershed with ≤10% wetland
8			Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N		Provides substantial storage of storm and floodwater based on previous section
2	Υ		Basin wetland or constricted outlet
3	Υ		Water flow through wetland is NOT channelized
4	N		Vegetated wetland associated with a lake or stream
5	Υ		Dense, persistent vegetation
6	N		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N		Stormwater or surface water from agricultural land is major hydrology source
8	N		Discharge to surface water
	N		Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Υ		Springs, seeps or indicators of groundwater present
	N		
	Y		Location near a groundwater divide or a headwater wetland
3			Wetland remains saturated for an extended time period with no additional water inputs
4	N N		Wetland soils are organic Wetland is within a wellhead protection area
5			L MUCTIONA IN MITHIN A MAINAGA PROTOCTION ARAC

Section 1 Comments (Refer to Section 1 numbers) WH 4: state rd 13 located within 100m buffer of wetlands WH 6, 7, 8: wetland located within forested blocs. Potential to provide nesting bird habitat, large mammal habitat. Wetlands surrounded by upland habitat. ST 1, 4: wetlands are located in toe of slope or on sloping hillsides adjacent to swales. Geomorphic position and drainage patterns observed GW 1,3: water table and saturation observed. Hydrology not linked to stream Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Potential Species/Habitat Observed

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)* wasw038e = yellow; wasw039f = green

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20% wasw038e	<10% wasw039f
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented wasw039f
NHI plant community ranking	S4 wasw038e	S3 wasw039f	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common both	Uncommon	Rare
FQI (optional)	<13	13-23 wasw038e	23-32 wasw039f	>32
Mean C (optional)	<2.4	2.4-4.2 wasw038e	4.3-4.7	>4.7 wasw039f

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name Common Name		C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Abies balsamea*	balsam fir	5	wasw038e; wasw039f	60%
Acer rubrum	red maple	3	wasw039f	15%
Acer saccharum	hard maple, sugar maple	5	wasw039f	12%
Amelanchier sanguinea	New England serviceberry, round-leaved serviceberry	7	wasw038e	12%
Betula alleghaniensis*	yellow birch	7	wasw039f	35%
Carex crinita*	fringed sedge	6	wasw039f	20%
Dryopteris intermedia*	fancy wood fern, glandular wood fern, intermediate	7	wasw039f	50%
Epilobium ciliatum	American willow-herb, hairy willow-herb	3	wasw038e	3%
Glyceria striata	fowl manna grass, fowl meadow grass	4	wasw038e	2%
Hypericum perforatum*	common St. John's-wort, Klamath-weed, St. John's-wart	0	wasw038e	25%
Juncus effusus	common rush, soft rush	4	wasw038e	15%
Juniperus virginiana	eastern red-cedar	3	wasw038e	10%
Ostrya virginiana*	eastern hop-hornbeam, ironwood	5	wasw039f	5%
Persicaria sagittata	arrow-leaved tearthumb, arrow vine	6	wasw038e	2%
Phalaris arundinacea	reed canary grass	0	wasw039f	5%
Picea glauca*	white spruce	7	wasw038e	12%
Populus tremuloides*	aspen, quaking aspen	2	wasw038e	18%
Rubus pubescens	dwarf red raspberry	7	wasw039f	7%
Salix bebbiana	beaked willow, Bebb's willow	7	wasw038e	12%
Salix petiolaris*	meadow willow	6	wasw038e; wasw039f	22%
Scirpus cyperinus*	wool-grass	4	wasw038e	50%
Solidago gigantea	giant goldenrod	3	wasw039f	5%
Symphyotrichum puniceum	swamp aster	5	wasw038e	2%
Tsuga canadensis*	eastern hemlock, hemlock, northern hemlock	8	wasw039f	25%

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

lominant plants in each strata of 039f with conservative c values. 039e dominated by invasive Hypericum			

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment	Buffer	Historic	Impact	Relative	Stressor
Area (AA)			Level*	Frequency**	
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
Х	Х		L	С	Roads or railroad
Х	х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Х	х		М	UC	Cover of non-native and/or invasive species
					Residential land use
Х	х		L	С	Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
		1			

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

etland located 100 m from state rd
etland located within electric utility corridor
on native hypericum observed, dominant and spreading in emergent wetland

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE										
	Low	Medium	High	Exceptional	NA						
Floristic Integrity		x									
Human Use Values	х										
Wildlife Habitat		х									
Fish and Aquatic Life Habitat	х										
Shoreline Protection					x						
Flood and Stormwater Storage		х									
Water Quality Protection		х									
Groundwater Processes		х									

RATIONALE
conservative species in forested wetland, invasive species in emergent wetland
private property, adjacent to house
not associated with stream, no standing water. Contiguous with large forested tracts
No habitat or species observed
N/A
wetlands located at toe of slope and on slope, basin wetlands
basin wetland, dense persistent emergent vegetation
some evidence of groundwater processes

Section 4: Project Impact Assessment

Brief Project Description
Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling. Tree removal	medium
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation and tree removal for construction.	medium
Cumulative Impacts	Operational vegetation maintenance	low
Spatial/Habitat Integrity	Temporary construction impacts	low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashlan	d	Sampling D	ate: 09-Oct-19
Applicant/Owner: Enbridge		State: WI	Sampling Point:	wasw038u
Investigator(s): ES/WC	Section, Township	o, Range: S. 7	т. 44N	R. 2W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave	convex, none): u	ndulating S	lope: <u>17.6</u> % / <u>10.0</u>
Subregion (LRR or MLRA): LRR K	at.: 46.31024406	Long.: -90.6	7297039	Datum: WGS 1984
Soil Map Unit Name: Gogebic-Metonga-Rock outcrop complex, 6	to 18 percent slopes, very	stony	I classification: No	ne
Are climatic/hydrologic conditions on the site typical for this tim	e of year? Yes 🍥 N	lo (If no, ex	xplain in Remarks.)	
Are Vegetation , Soil , or Hydrology signif	icantly disturbed? Ar	e "Normal Circumst	tances" present?	Yes No
	•		ny answers in Remai	·ks.)
Summary of Findings - Attach site map showi			-	•
Hydrophytic Vegetation Present? Yes No				
Hydric Soil Present? Yes No •	Is the Sampl within a Wet		No ●	
Wetland Hydrology Present? Yes ○ No ●	Within a week			
Hydrology				
Wetland Hydrology Indicators:			rv Indicators (minimun	of 2 required)
Primary Indicators (minimum of one required; check all that at			face Soil Cracks (B6)	
Surface Water (A1) Water-Stain High Water Table (A2) Aquatic Fau	ed Leaves (B9)		inage Patterns (B10) s Trim Lines (B16)	
Saturation (A3) Marl Deposi			Season Water Table (C	2)
	ulfide Odor (C1)		fish Burrows (C8)	/
	izospheres along Living Roots		uration Visible on Aerial	Imagery (C9)
	Reduced Iron (C4)		nted or Stressed Plants	(D1)
Algal Mat or Crust (B4)	Reduction in Tilled Soils (C6)	Geo	morphic Position (D2)	
Iron Deposits (B5) Thin Muck S	Gurface (C7)	☐ Sha	llow Aquitard (D3)	
` '	ain in Remarks)		otopographic Relief (D	4)
Sparsely Vegetated Concave Surface (B8)		∟ FAC	-neutral Test (D5)	
Field Observations: Surface Water Present? Yes No Depth (inc	:hes):			
	thes): W e	tland Hydrology Pr	resent? Yes	No 💿
(includes capillary fringe)	<u> </u>) ·c · · · · · · · · · · · · · · · · · ·		
Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspectio	ns), if available:		
Remarks:				

VEGETATION - Use scientific names of p	iants		ominant pecies?		Sampling Point: wasw038u
Tree Stratum (Plot size: 30')	Absolute % Cover	R	el.Strat.	Indicator Status	Dominance Test worksheet:
1 Piece elevee	10	<u>V</u>	20.8%	FACU	Number of Dominant Species
O. Plane stratus		<	31.3%	FACU	That are OBL, FACW, or FAC: (A)
0. 8			6.3%	FACU	Total Number of Dominant
		V			Species Across All Strata: 6 (B)
4. Juniperus virginiana			<u>41.7%</u> 0.0%	FACU	Percent of dominant Species
5					That Are OBL, FACW, or FAC: 33.3% (A/B)
6			0.0%		
7		Ш	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	48	= T	otal Cove	r	Total % Cover of: Multiply by:
1 . Alnus incana	10	V	66.7%	FACW	OBL species x 1 =
2. Rhamnus cathartica		~	33.3%	FAC	FACW species <u>10</u> x 2 = <u>20</u>
3		\Box	0.0%		FAC species $\underline{5}$ x 3 = $\underline{15}$
4		$\overline{\Box}$	0.0%		FACU species $\frac{175}{}$ x 4 = $\frac{700}{}$
5		\Box	0.0%		UPL species $0 \times 5 = 0$
6			0.0%		Column Totals: 190 (A) 735 (B)
			0.0%		
7			otal Cove		Prevalence Index = B/A = 3.868
Herb Stratum (Plot size: 5')	15	- '	otal Cove		Hydrophytic Vegetation Indicators:
1 . Solidago altissima	20		15.7%	FACU	Rapid Test for Hydrophytic Vegetation
2. Rubus idaeus		\Box	3.9%	FACU	Dominance Test is > 50%
3. Cirsium arvense			1.6%	FACU	Prevalence Index is ≤3.0 ¹
4. Poa pratensis	- 100	_ _	78.7%	FACU	Morphological Adaptations ¹ (Provide supporting
5			0.0%	TACO	data in Remarks or on a separate sheet)
		\Box	0.0%		☐ Problematic Hydrophytic Vegetation ¹ (Explain)
6			0.0%		¹ Indicators of hydric soil and wetland hydrology must
7			0.0%		be present, unless disturbed or problematic.
8			0.0%		Definitions of Vegetation Strata:
9					
10	0		0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
11	0_	\vdash	0.0%		at breast height (DBH), regardless of height.
12		Ш	0.0%		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 15')	127	= T	otal Cove	r	greater than 3.28 ft (1m) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
4	0		0.0%		height.
	0	= T	otal Cove	r	
					Hydrophytic
					Vegetation
Demonstrate (Tarabada artista e a transferante	-l! \				I
Remarks: (Include photo numbers here or on a separate	sneet.)				

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FW

Soil Sampling Point: wasw038u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth							_		
(inches)	Color (%	Color (moist)	%	Type ¹	Loc2	Texture Remarks
0-8	10YR	3/2	100						Silty Clay Loam
8-16	10YR	3/3	95	7.5YR	3/4	5	C	PL	Silty Clay Loam
16-24	7.5YR	4/3	88	7.5YR	4/6	2	С	М	Clay Loam
+mottle	10YR	3/2	10						Clay Loam
		-	-			-			
		-							
¹ Type: C=Cond	entration. D	=Depletio	n. RM=Re	duced Matrix,	CS=Cover	red or Coat	ed Sand G	irains ² Loc	cation: PL=Pore Lining. M=Matrix
Hydric Soil I		•		,					Indicators for Problematic Hydric Soils: 3
Histosol (A				Poly	value Belo	w Surface	(S8) (LRR	R,	
Histic Epip	pedon (A2)			MLR	A 149B)				☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B) ☐ Coast Prairie Redox (A16) (LRR K, L, R)
Black Hist	ic (A3)					ace (S9) (5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
Hydrogen	Sulfide (A4)				, ,	Mineral (F1)	Dark Surface (S7) (LRR K, L, M)
_	Layers (A5)					Matrix (F2))		Polyvalue Below Surface (S8) (LRR K, L)
_	Below Dark S		(11)		eted Matri				☐ Thin Dark Surface (S9) (LRR K, L)
l —	k Surface (A:	-				ırface (F6) Surface (F	:7)		☐ Iron-Manganese Masses (F12) (LRR K, L, R)
I — '	ck Mineral (S	•			ox Depress		7)		☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
	yed Matrix (S4)		Rede	л Бергеза	30113 (1 0)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Red									Red Parent Material (F21)
	Matrix (S6)	D D MID/	\ 140P\						☐ Very Shallow Dark Surface (TF12)
	ace (S7) (LRI		-						Uther (Explain in Remarks)
³ Indicators of	hydrophytic	vegetatio	n and wet	land hydrolog	y must be	present, u	nless distu	rbed or pro	blematic
Restrictive La	ayer (if obs	erved):							
Type:									
Depth (incl	hes):								Hydric Soil Present? Yes ○ No ●
Remarks:									



Photo File: DSCN8026.JP

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:



Photo File: DSCN8027.JPG

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Description:

Lat/Northing:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	_ Sampling Date: 2019-10-03		
Applicant/Owner: Enbridge					
Investigator(s): BRG/JSW	Section, Township	, Range: <u>044N-002W-</u>	07		
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR or MLRA): $\frac{\text{Northcentral Forests}}{\text{Lat:}}$ Lat: $\frac{46.309}{\text{Loss}}$					
Soil Map Unit Name: Gogebic-Metonga-Rock outcrop comple					
Are climatic / hydrologic conditions on the site typical for this time					
Are Vegetation, Soil, or Hydrology signific					
Are Vegetation, Soil, or Hydrology natura					
SUMMARY OF FINDINGS – Attach site map show	wing sampling poir	nt locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes _ ✓ No	within a Ma	pled Area etland? Yes <u>√</u>	No		
Hydric Soil Present? Yes ✓ No Wetland Hydrology Present? Yes ✓ No		nal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a separate		nai Weliand Sile ID.			
The wetland is a fresh wet meadow located	along a paved r	road. The feature is	s artificial and only		
exists due to conditions created by road co	nstruction.				
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indic	cators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that a	pply)	Surface Soi			
✓ Surface Water (A1) Water-Sta	ained Leaves (B9)	Drainage Patterns (B10)			
High Water Table (A2) Aquatic F		Moss Trim I			
Saturation (A3) Marl Depo	osits (B15)	Dry-Seasor	n Water Table (C2)		
Water Marks (B1) Hydrogen	Sulfide Odor (C1)	Crayfish Bu			
	Rhizospheres on Living F		Visible on Aerial Imagery (C9)		
	of Reduced Iron (C4)		Stressed Plants (D1)		
	on Reduction in Tilled So				
	k Surface (C7)	Shallow Aq	` ,		
	plain in Remarks)		raphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	al Test (D5)		
Field Observations: Surface Water Present? Yes ✓ No Depth (ir	aabaa): 0 1				
Water Table Present? Yes No Depth (ir					
Saturation Present? Yes _ No _ Depth (in	·	Wetland Hydrology Prese	ent? Yes <u>√</u> No		
(includes capillary fringe)	·		HIL: 165 V NO		
Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspect	ions), if available:			
Remarks:					
The hydrologic regime is seasonally satura	ted, with recharg	je hydrology. Storm	nwater runoff from the		
adjacent road is collected in the wetland. R	tain events occur	rred prior to the tim	e of survey.		

VEGETATION – Use scientific names of plants.

Remarks: (Include photo numbers here or on a separate	sheet.)	= Total Co		
4				Present? Yes No
3				Hydrophytic Vegetation
2				
1				
Woody Vine Stratum (Plot size: 30')				
001	95.0	= Total Co	ver	
12. <u>Symphyotrichum puniceum</u>	1.0	<u>N</u>	OBL	Woody vines – All woody vines greater than 3.28 ft in height.
11. Galium asprellum		<u>N</u>	OBL	
10. <u>Solidago gigantea</u>	2.0	_ <u>N</u> _	FACW	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
9. <u>Onoclea sensibilis</u>		<u>N</u>	FACW	and greater than or equal to 3.28 ft (1 m) tall.
8. <u>Carex crinita</u>		_N	OBL	Sapling/shrub – Woody plants less than 3 in. DBH
7. <u>Doellingeria umbellata</u>		_N_	FACW	at breast height (DBH), regardless of height.
6. <u>Eutrochium maculatum</u>		N	OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
5. <u>Symphyotrichum lanceolatum</u>	_ <u>5.0</u>	_ <u>N</u> _	FACW	Definitions of Vegetation Strata:
4. <u>Typha X glauca</u>		N	OBL	be present, unless disturbed or problematic.
3. <u>Juncus effusus</u>		Y	OBL	¹ Indicators of hydric soil and wetland hydrology must
2. <u>Phalaris arundinacea</u>		<u>Y</u>	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Scirpus cyperinus</u>	40.0	Y	OBL	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting
	0.0	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 ¹
7				_✓ 1 - Rapid Test for Hydrophytic Vegetation_✓ 2 - Dominance Test is >50%
6			·	Hydrophytic Vegetation Indicators:
5				
4				Prevalence Index = B/A =1.3
3				Column Totals: 95.0 (A) 122.0 (B)
2				UPL species 0.0 x 5 = 0.0
1				FAC species 0.0 x 4 = 0.0 FACU species 0.0 x 4 = 0.0
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>27.0</u> x 2 = <u>54.0</u> FAC species <u>0.0</u> x 3 = <u>0.0</u>
	_0.0	= Total Co	ver	OBL species <u>68.0</u> x 1 = <u>68.0</u>
7			·	Total % Cover of: Multiply by:
6			· ——	Prevalence Index worksheet:
5				That Are OBL, FACW, or FAC:
4				Percent of Dominant Species
3				Species Across All Strata: 3.0 (B)
2				Total Number of Dominant
1				Number of Dominant Species That Are OBL, FACW, or FAC: 3.0 (A)
Tree Stratum (Plot size: 30')		Species?		Dominance Test worksheet:
·	Absolute	Dominan	Indicator	

Vegetation on the roadside edge of the wetland is occasionally mowed, and as such the wetland is entirely emergent and shrubs are cut short. The wetland has a disturbed plant community with significant invasive species cover.

Sampling Point: wasc049e_w

SOIL Sampling Point: wasc049e_w

Profile Desc	ription: (Describe to	the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of	of indicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)		Color (moist)	%	Type'	_Loc ²	Texture	Remarks
				· ——				
¹Type: C=Co	oncentration, D=Deple	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix. or Problematic Hydric Soils³:
Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy R Stripped	ipedon (A2)	- - -	Polyvalue Belov MLRA 149B) Thin Dark Surfate Loamy Mucky Mark Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Su Redox Depress	nce (S9) (L Mineral (F1 Matrix (F2) ((F3) rface (F6) Surface (F	.RR R, MI) (LRR K	_RA 149B)	Coast P 5 cm Mt Dark Su Polyvalt Thin Da Iron-Mai Piedmoi Mesic S Red Pai	uck (A10) (LRR K, L, MLRA 149B) trairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R) uface (S7) (LRR K, L) ue Below Surface (S8) (LRR K, L) rk Surface (S9) (LRR K, L) rnganese Masses (F12) (LRR K, L, R) nt Floodplain Soils (F19) (MLRA 149B) repodic (TA6) (MLRA 144A, 145, 149B) rent Material (F21) tallow Dark Surface (TF12) Explain in Remarks)
	hydrophytic vegetation	on and wet	land hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
	ayer (if observed):							
Type: Depth (inc	:hes):		<u> </u>				Hydric Soil F	Present? Yes <u>√</u> No
	ld not be samp ric based on th							s such, soils are assumed tic vegetation.



wasc049e_w_N



wasc049e_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name:	Evaluator(s):			
Line 5 Relocation Project	BRG/JSW			
File #:	Date of visit(s):			
wasc049	10/03/2019			
Location:	Ecological Landsca	ape:		
PLSS: <u>044N-002W-07</u>	North Central Forest			
	North Central Polest			
Lat: <u>46.309725</u> Long: <u>-90.671469</u>	Watershed:			
	LS14, Upper Bad River			
County: Ashland Town/City/Village: Morse town				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	N/A			
809C Gogebic-Metonga-Rock outcrop complex	Wetland Type(s):			
l	PEM - Fresh wet meadow			
Field Verified:				
Series not verified. Soils were not sampled due to	Wetland Size:	Wetland Area Impacted		
the wetland's location in a roadside ditch.	0.27	0.27		
and workering of total of the angular content	Vegetation:			
	Plant Community D	escription(s).		
Hydrology:		ow dominated by Scirpus		
The hydrologic regime is seasonally saturated,				
with recharge hydrology. The wetland receives	cyperinus and Typha X glauca. The wetland is			
· · · · · · · · · · · · · · · · · · ·	filled with typical roadside ditch species that			
runoff from the adjacent paved road.	favor disturbed a	favor disturbed areas.		

SITE MAP

SECTION 1: Functional Value Assessment

HU Y/N Potential Human Usa Values: recreation, culture, education, science, natural scenic beauty				Functional Value Assessment
2 N N N Used for educational or scientific purposes 3 Y Y V Susually or physically accessible to public 4 N N A Assthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH W Widlife Habitat 1 Y W Wetland and contiquous habitat >10 acres 2 N N 3 or more stratal present (-10% cover) 3 N N Within or adjacent to habitat cornidor or established wildlife habitat area 4 N N 100 m buffer – natural land cover ≥50% (south) 75% (north) infact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh.shrub/emergent, wetland/upland complex,etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephermeral pond with water present ≥ 45 days 110 N Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudillats present 112 N N Provides habitat carce in the area (urban, agricultural, etc.) 113 N N V Standing water provides habitat for amphibians and aquatic invertebrates 114 N N V Standing water provides habitat for amphibians and aquatic invertebrates 115 N N V Standing water provides habitat for amphibians and aquatic invertebrates 116 N N N N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 117 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 118 N N N N Natural Heritage Inventory (NHI) listed approved to the provides water and (urban, agricultural, etc.) 119 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 110 N N Seasonally exposed mudilate present 111 N N N Seasonally exposed mudilate	HU	Y/N	Potential	
3	\vdash	N	N	
N	2	Ν	N	Used for educational or scientific purposes
S	3	Υ	Υ	Visually or physically accessible to public
Section Sect	4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
Section Sect	_			In or adjacent to RED FLAG areas
In or adjacent to archaeological or cultural resource site Wildlife Habitat	5	N	N	· · · · · · · · · · · · · · · · · · ·
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	N	N	Supports or provides habitat for endangered, threatened or special concern species
WH	7			
1	WH			1 7
2	h	Υ	Υ	Wetland and contiguous habitat >10 acres
N	2			
4	$\overline{}$			
5 N N Cocurs in a Joint Venture priority township 6 N N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring 5 P Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Y Densely rooted emergent or woody vegetation 3 Y Y Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 N N N Water flow through wetland is NOT channelized 3 N N N Impervious surfaces cover >10% of land surface within the watershed 4 N N Evidence of flashy hydrology 5 Y Y Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N N Water flow through wetland is NOT channelized 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event 9 N N Signs of excess nutrients, such as aligae blooms, heavy macrophyte growth 7 N N N Signs of excess nutrients, such as aligae blooms, heavy macrophyte growth 8 N N Discharge to surface water 9 N N N Stormwater or surface water 1 N N N Stormwater or surface water 1 N N N Stormwater or s	$\overline{}$			
Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) V				
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5 Y Y Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 Y Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 N N Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N N Natural land cover in 100m buffer area < 50%	3	Υ	Υ	Dense, persistent vegetation
6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 Y Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 N N Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N N Natural land cover in 100m buffer area < 50%	4	Ν	Ν	Evidence of flashy hydrology
6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 Y Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 N N Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N N Natural land cover in 100m buffer area < 50%	5			
7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 Y Provides substantial storage of storm and floodwater based on previous section 2 Y Provides substantial storage of storm and floodwater based on previous section 2 Y Basin wetland or constricted outlet 3 N N Water flow through wetland is NOT channelized 4 Y Vegetated wetland associated with a lake or stream 5 Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N N Natural land cover in 100m buffer area < 50%	6			
8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 Y Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 N N Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%				
WQ Water Quality Protection 1 Y Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 N N Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%				
1 Y Y Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 N N Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic				
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3 N N Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%	2			
4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N Wetland soils are organic				
7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
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2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic				
3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 N N Wetland soils are organic	\vdash			
4 N N Wetland soils are organic	-	N	N	
			N	
5 N N Wetland is within a wellhead protection area		N	N	
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) WH-4: the wetland is adjacent to a paved road WH-7: dense cattail provides good habitat for songbird nesting, although the busy roadside position is not ideal SP-1: associated with an intermittent stream WQ-1: the wetland is of low floristic quality, but functions very well for storing stormwater runoff from the adjacent road

Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
	Y	Avian, as well as marginal mammal and amphibian habitat

Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
	Υ	Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4/	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Scirpus cyperinus			PEM	Common
Phalaris arundinacea			PEM	Common
Juncus effusus			PEM	Common
Typha X glauca			PEM	Uncommon
Symphyotrichum lanceolatum			PEM	Uncommon
Eutrochium maculatum			PEM	Uncommon
Doellingeria umbellata			PEM	Uncommon
Carex crinita			PEM	Uncommon
Onoclea sensibilis			PEM	Uncommon
Solidago gigantea			PEM	Uncommon
Galium asprellum			PEM	Uncommon
Symphyotrichum puniceum			PEM	Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland is of low floristic quality as a result of the prevalence of invasive species and the disturbance-favoring vegetation.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
X	Х		Drainage –		Drainage – tiles, ditches
	Х				Hydrologic changes - high capacity wells,
	^				impounded water, increased runoff
	Х		Н	С	Point source or stormwater discharge
	X		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		Н	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	V			0	Removal of herbaceous stratum – mowing,
X	X		Н	С	grading, earthworms, etc.
		Х	М	U	Removal of tree or shrub strata – logging,
		^	IVI	U	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	Χ		Н	С	Cover of non-native and/or invasive species
	Χ		M	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
			_		Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is an artificial feature that is heavily disturbed and only exists due to the ditch hydrology and location								
next to a paved road. Logging has occurred in the adjacent forest in the recent past.								

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat			√		
Fish and Aquatic Life Habitat	√				
Shoreline Protection			√		
Flood and Stormwater Storage			√		
Water Quality Protection			√		
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Low species diversity and presence of invasive species
Human Use Values	Small size and no good uses, fast traffic on adjacent road
Wildlife Habitat	Adjacent to a busy paved road, but good habitat for Red-winged Blackbirds and other species that nest in cattails
Fish and Aquatic Life Habitat	Some marginal habitat when the wetland is more frequently inundated, but habitat is decreased by polluted runoff
Shoreline Protection	Densely vegetated wetland associated with an intermittent stream, functions as a buffer between road runoff and the stream
Flood and Stormwater Storage	Stores significant runoff from the paved road
Water Quality Protection	Filters polluted runoff water
Groundwater Processes	Groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Low
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Co	ounty: Ashland	Sampling Date: 2019-10-03			
Applicant/Owner: Enbridge						
Investigator(s): BRG/JSW	Section	n, Township, Range: <u>044N-002\</u>	N-07			
Landform (hillslope, terrace, etc.): Footslope						
Subregion (LRR or MLRA): Northcentral Forests						
Soil Map Unit Name: Gogebic-Metonga-Rock ou						
Are climatic / hydrologic conditions on the site typic						
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site	e map snowing sam	pling point locations, transe	ects, important features, etc.			
Hydrophytic Vegetation Present? Yes		Is the Sampled Area				
	140	within a Wetland? Yes	No <u>√</u>			
		If yes, optional Wetland Site ID:				
Remarks: (Explain alternative procedures here of The upland sample point is located to the sa	r in a separate report.) ed in a mesic fores	t where some logging a	ctivity has occurred in			
the recent past. Vegetation is fact			-			
indicators were observed.	untative due to the	mesic environment, but i	lo otrici wetiaria			
indicators were observed.						
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Ir	ndicators (minimum of two required)			
Primary Indicators (minimum of one is required; c			Soil Cracks (B6)			
	Water-Stained Leaves		e Patterns (B10)			
	Aquatic Fauna (B13)		Moss Trim Lines (B16)			
	Marl Deposits (B15)	-	son Water Table (C2)			
	Hydrogen Sulfide Odo		Burrows (C8)			
	Oxidized Rhizospheres	- · · ·	on Visible on Aerial Imagery (C9)			
	Presence of ReducedRecent Iron Reduction		or Stressed Plants (D1) phic Position (D2)			
	Thin Muck Surface (C7		Aquitard (D3)			
	Other (Explain in Rem		pographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Neil)	· — ·	utral Test (D5)			
Field Observations:		<u> </u>	uttai 163t (53)			
	✓ Depth (inches):					
	✓ Depth (inches):					
	✓ Depth (inches):		esent? Yes No <u>√</u>			
(includes capillary fringe)	an well as well about a conse	Same Same of the No. 15 and Salah Inc.				
Describe Recorded Data (stream gauge, monitori	ng weii, aeriai photos, prev	lous inspections), if available:				
Remarks:						
No primary indicators of wetland	hydrology were ob	served.				

VEGETATION - Use scientific names of plants				Sampling Point: wasc049_u
Tree Stratum (Plot size:30')	Absolute % Cover	Dominan Species?	t Indicator Status	Dominance Test worksheet:
1. Quercus rubra		Y		Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
Thuja occidentalis			FACW	
3. <u>Ulmus americana</u>			FACW	Total Number of Dominant Species Across All Strata: 6 (B)
Betula alleghaniensis			FAC	
5. Populus tremuloides				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)
•				
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
45	80.0	= Total Co	over	OBL species
Sapling/Shrub Stratum (Plot size:15')	00.0		- 4014/	FACW species 60 x 2 = 120 FAC species 49 x 3 = 147
1. <u>Thuja occidentalis</u>				FACU species 35 x 4 = 140
2				UPL species
3				Column Totals: 144 (A) 407 (B)
4		· 		
5				Prevalence Index = B/A =2.83
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	20	= Total Co	over	✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				✓ 3 - Prevalence Index is ≤3.0 ¹
1. Dryopteris intermedia	20.0	Y	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Brachyelytrum aristosum</u>			NI	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Athyrium angustum</u>			FAC	4
4. <u>Carex gracillima</u>			FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Trientalis borealis		N	FAC	Definitions of Vegetation Strata:
6. Carex pedunculata			FAC	
7. Populus tremuloides			FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11		-		Woody vines – All woody vines greater than 3.28 ft in
12				height.
201		= Total Co	over	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4			-	Vegetation Present? Yes ✓ No
		= Total Co	over	
Remarks: (Include photo numbers here or on a separate		ija ogoji	dontalic	and Ouarous rubra
The upland is a mesic forest dominated	טחו עט ג	ija occi	uentaiis	and Quercus rubra.

SOIL Sampling Point: wasc049_u

Profile Desc	ription: (Describe to	the depth				or confirm	the absence of	f indicators.)	
Depth	<u>Matrix</u>			x Features		. 2	- .		
(inches)	Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks	
				· ——					
Hydric Soil Histosol Histic Ep Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy R Stripped Dark Su	(A1) pipedon (A2) stic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) flucky Mineral (S1) fleyed Matrix (S4) ledox (S5) Matrix (S6) rface (S7) (LRR R, Mi	(A11)	Polyvalue Belov MLRA 149B) Thin Dark Surfa Loamy Mucky N Loamy Gleyed I Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depress	w Surface ace (S9) (L dineral (F1 Matrix (F2 (F3) rface (F6) Surface (F ions (F8)	(S8) (LRF LRR R, MI I) (LRR K)	R R, _RA 149B) , L)	Indicators fo 2 cm Muc Coast Pr. 5 cm Muc Dark Sur Polyvalue Thin Darl Iron-Man Piedmon Mesic Sp Red Pare Very Sha Other (Ex	PL=Pore Lining, M=Ma or Problematic Hydric ck (A10) (LRR K, L, Mi airie Redox (A16) (LRF cky Peat or Peat (S3) (face (S7) (LRR K, L) e Below Surface (S8) (I k Surface (S9) (LRR K aganese Masses (F12) at Floodplain Soils (F19) podic (TA6) (MLRA 144 ent Material (F21) allow Dark Surface (TF-	Soils ³ : LRA 149B) R K, L, R) LRR K, L, R) LRR K, L) , L) (LRR K, L, R)) (MLRA 149B) HA, 145, 149B)
Type:	_ayer (if observed):		_						
	ches):		<u> </u>				Hydric Soil Pi	resent? Yes	No <u>√</u>
As such,		med to b	e non-hydri	-	•			within the roads ydrophytic vege	



wasc049_u_E



wasc049_u_N

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-03		
Applicant/Owner: Enbridge					
Investigator(s): BRG/JSW					
Landform (hillslope, terrace, etc.): Side slope					
Subregion (LRR or MLRA): Northcentral Forests Lat: 4					
Soil Map Unit Name: Gogebic-Metonga-Rock outcrop					
Are climatic / hydrologic conditions on the site typical for the					
Are Vegetation, Soil, or Hydrology	•				
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach site map	snowing sampling poil	nt locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes <u>✓</u>	No Is the Sam				
Hydric Soil Present? Yes✓	110	etland? Yes <u>√</u>	No		
Wetland Hydrology Present? Yes ✓		onal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a since the wetland is a fresh wet meadow/ha	eparate report.) ardwood swamp com:	nlex that exists due	to groundwater		
seepage out of a hillside. The emerge		•	· ·		
access to a small residential building,					
plant community.	and otherwise would	be a part of the san	io forestea wettaria		
plant community.					
HYDROLOGY					
Wetland Hydrology Indicators:	II that anal A	•	ators (minimum of two required)		
Primary Indicators (minimum of one is required; check al					
	ater-Stained Leaves (B9) quatic Fauna (B13)	Drainage Pa Moss Trim L			
	arl Deposits (B15)		Water Table (C2)		
	ydrogen Sulfide Odor (C1)	Crayfish Bur			
	xidized Rhizospheres on Living F		isible on Aerial Imagery (C9)		
	resence of Reduced Iron (C4)		tressed Plants (D1)		
<u> </u>	ecent Iron Reduction in Tilled So				
	nin Muck Surface (C7)	Shallow Aqu			
	ther (Explain in Remarks)	Microtopogra			
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutral	Test (D5)		
Field Observations:					
	Pepth (inches):				
	Pepth (inches):				
Saturation Present? Yes _ ✓ No D (includes capillary fringe)	Depth (inches): 0	Wetland Hydrology Preser	nt? Yes/ No		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					
The wetland is fed by a hillside seep,	and discharges grour	ndwater downslope	and through		
associated stream sasc032i. The hydr		-	J		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute		Indicator	Dominance Test worksheet:
	% Cover			Number of Dominant Species
1				That Are OBL, FACW, or FAC:3.0 (A)
2				Total Number of Dominant
3				Species Across All Strata:
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
5				That Are OBL, FACW, OF FAC. 100.0 (AVB)
6		-		Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species <u>27.0</u> x 1 = <u>27.0</u>
Sapling/Shrub Stratum (Plot size:)				FACW species <u>45.0</u> x 2 = <u>90.0</u>
1				FAC species 10.0 x 3 = 30.0
2				FACU species <u>5.0</u> x 4 = <u>20.0</u>
3				UPL species x 5 = (B) Column Totals: 87.0
4				Column Totals. <u>87.0</u> (A) <u>107.0</u> (B)
5				Prevalence Index = B/A =1.9
6.				Hydrophytic Vegetation Indicators:
7				
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')			• • • • • • • • • • • • • • • • • • • •	3 - Prevalence Index is ≤3.0¹
1. Carex bromoides	40.0	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Epilobium coloratum		Υ	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Scutellaria lateriflora</u>		Υ	OBL	
4. Osmunda claytoniana		N	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Agrimonia striata		N	FACU	
6. Solidago gigantea		N	FACW	Definitions of Vegetation Strata:
7. Rumex obtusifolius		N	FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
		N	OBL	at breast height (DBH), regardless of height.
		N	OBL	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9. <u>Persicaria sagittata</u>			UBL	
				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12			·	height.
201	07.0	= Total Co	ver	
Woody Vine Stratum (Plot size:30')				
1				
2				
3				Hydrophytic
4				Vegetation
		= Total Co	ver	
Remarks: (Include photo numbers here or on a separate s The fresh wet meadow component is d	sheet.) ominato	d by Ca	arov bro	maidas
The fresh wet meadow component is a	Ommate	u by Co	alex blo	moides.

Sampling Point: wasc050e_w

SOIL Sampling Point: wasc050e_w

			the dep	th needed				or confirm	the absence	e of indicators.)
Depth (inches)	Color (mo	latrix oist)	%	Color (r		x Features %	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 2	2/2	95	5YR	4/4	5	С	M	MMI	Prominent redox
4-8	10YR 2	2/1	95	5YR	4/4	5	<u>C</u>	_M_	CL	Prominent redox
	oncentration,	D=Deple	tion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gra	ains.		n: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)				Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)						
	f hydrophytic v Layer (if obse	-	on and we	etland hydro	ology mus	t be prese	ent, unless	s disturbed	or problemati	С.
Type: <u>cc</u>										
Depth (inches): 8						Hydric Soil Present? Yes No				
Remarks: Soils cou	ıld not be	dug o	deepe	r due to	a rest	rictive	cobble	layer.		



wasc050e_w_S



wasc050e_w_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	Dity/County: Ashland Sampling Date: 2019-10-03
•	State: WI Sampling Point: wasc050f_w
Investigator(s): BRG/JSW	Section, Township, Range: <u>044N-002W-07</u>
	al relief (concave, convex, none): Concave Slope (%): 3-7%
	Long: -90.670830 Datum: WGS84
	o 18 percent slopes, very stony NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year	
	disturbed? Are "Normal Circumstances" present? Yes _ ✓ No
Are Vegetation, Soil, or Hydrology naturally pro	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate repor	If yes, optional Wetland Site ID:
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained L	Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (
✓ Saturation (A3) Marl Deposits (E	
Water Marks (B1) Hydrogen Sulfid	
Sediment Deposits (B2) Oxidized Rhizos Presence of Rec	spheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) duced Iron (C4) Stunted or Stressed Plants (D1)
	duction in Tilled Soils (C6) ———————————————————————————————————
Iron Deposits (B5) Thin Muck Surfa	
Indit Deposite (EG) Thirt Made Carle Inundation Visible on Aerial Imagery (B7) Other (Explain in	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ Depth (inches):	
Water Table Present? Yes ✓ No Depth (inches):	
Saturation Present? Yes No Depth (inches).	<u>0</u> Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos	s previous inspections) if available:
Describe Necorded Bata (Stream gauge, monitoring well, acrial photo-	s, previous inspections), il available.
Remarks:	m coco022i runo down the clone through the watland
	m sasc032i runs down the slope through the wetland.
The hydrologic regime is seasonally saturated,	with discharge hydrology.

/EGETATION – Use scientific names of plants.				Sampling Point: wasc050f_w
<u>Tree Stratum</u> (Plot size:)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Fraxinus pennsylvanica	30.0	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:8 (A)
2. <u>Fraxinus nigra</u>	20.0	Y	FACW	Total Number of Dominant
3. <u>Betula alleghaniensis</u>	10.0	N	FAC	Species Across All Strata:(B)
4. <u>Ulmus americana</u>	10.0	N	FACW	Percent of Dominant Species
5. <u>Acer rubrum</u>			FAC	That Are OBL, FACW, or FAC: 72.73 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Cov		OBL species x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species 135 x 2 = 270
1. <u>Fraxinus nigra</u>	10.0	Υ	FACW	FAC species <u>25</u> x 3 = <u>75</u>
2. <u>Tilia americana</u>			FACU	FACU species 25 x 4 = 100
3. Corylus cornuta			FACU	UPL species x 5 =0
4. Acer saccharum			FACU	Column Totals: <u>185</u> (A) <u>445</u> (B)
5. <u>Ulmus americana</u>				Prevalence Index = B/A =2.41
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov		∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')		_ 10tal 00t		3 - Prevalence Index is ≤3.0 ¹
1. <u>Carex bromoides</u>	40.0	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Athyrium angustum		Y	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Rubus pubescens		Y	FACW	
4. Fraxinus nigra		Y	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Carex gracillima		N	FACU	Definitions of Vegetation Strata:
6. Acer saccharum		N	FACU	_
7.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Cov	/er	height.
Woody Vine Stratum (Plot size:30')				
1				
2.				
3			-	Hydrophytic
4				Vegetation
		= Total Cov	/er	Present? Yes No
Remarks: (Include photo numbers here or on a separate s	sheet.)			
The hardwood swamp component is do herbaceous layer dominated by Carex l	minated		xinus n	igra and F. pennsylvanica, with an

SOIL Sampling Point: wasc050f_w

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix			x Features		1 2	Taratana	Demode
(inches)	Color (moist)		Color (moist)	<u>%</u>	Type'	Loc ²	<u>Texture</u>	Remarks
0-20	10YR 2/2	100		·			_MMI	
				· <u></u>				
	-	· ·		·				
		· ·						
		. ——— ·						
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.
Hydric Soil			Daharahas Dalas		(Oo) (I DI			Problematic Hydric Soils ³ :
Histosol	oipedon (A2)		Polyvalue Belov MLRA 149B)		(58) (LRI	κκ,		k (A10) (LRR K, L, MLRA 149B) irie Redox (A16) (LRR K, L, R)
	stic (A3)		Thin Dark Surfa		RR R, MI	RA 149B)	5 cm Muc	ky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		∠ Loamy Mucky N ———————————————————————————————————			, L)		ace (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surfac	o (A11)	Loamy Gleyed Depleted Matrix)			Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L)
	ark Surface (A12)	e (ATT)	Redox Dark Su					ganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark S		7)		-	Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)		Redox Depress	ions (F8)				odic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)							nt Material (F21)
	l Matrix (S6) rface (S7) (LRR R, N	ILRA 149B)					low Dark Surface (TF12) plain in Remarks)
	f hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	s disturbed	or problematic.	
Restrictive	Layer (if observed):							
Type:								
	ches):						Hydric Soil Pre	esent? Yes No
Remarks:	coturated and	d muda	,					
Solis ale	saturated and	a mucky	/ .					



wasc050f_w_N



wasc050f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW		
File #: wasc050	Date of visit(s): 10/03/2019		
Location: PLSS: 044N-002W-07	Ecological Landsca North Central Forest	ape:	
Lat: <u>46.30941</u> Long: <u>-90.670825</u> County: <u>Ashland</u> Town/City/Village: <u>Morse town</u>	Watershed: LS14, Upper Bad River		
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
809C Gogebic-Metonga-Rock outcrop complex Field Verified:	Wetland Type(s): PFO/PEM complex - Hardwood swamp/Fresh wet meadow		
Series not verified. Soils were a mucky mineral throughout the profile.	Wetland Size: 0.16	Wetland Area Impacted 0.16	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The hydrologic regime is seasonally saturated. The wetland is a hillside seep, and as such discharges groundwater into the wetland and downslope. An intermittent stream runs through the wetland.	The hardwood swamp is dominated by Fraxinus pennsylvanica, F. nigra, and Betula alleghaniensis, and the fresh wet meadow component is dominated by Carex bromoides. The emergent component only exists due to past clearing to access a small residential building.		

SITE MAP

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5			
-	N	N	Occurs in a Joint Venture priority township
6	Υ	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present <u>> 45 days</u>
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	Υ	water levels or high flows – if no, not applicable
3	Υ	Υ	Densely rooted emergent or woody vegetation
ST		-	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7			Within a watershed with <10% wetland
8	N N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	N	N	Water Quality Protection
	N.	N 1	
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	N	N	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	Υ	Y	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Υ	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Υ	Υ	Springs, seeps or indicators of groundwater present
2	N	N N	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	Y	Y	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	l IV	I IN	wouldno is willing wellinead protection area

		nments (Refer to Section 1 numbers)
GW-1: the wetland i	stream runs through s fed by a hillside se thick layer of mucky	
147		
Lis		at and Species Observation (including amphibians and reptiles) oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
	Y	Deer/mammals Deer/mammals
	Y	Avian
	Y	Amphibians
Ei	ah and Agus	atic Life Hebitet and Species Observations
		atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Y	Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant [Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus pennsylvanica			PFO	Common
Fraxinus nigra			PFO	Common
Betula alleghaniensis			PFO	Common
Ulmus americana			PFO	Common
Acer rubrum			PFO	Uncommon
Tilia americana			PFO	Uncommon
Corylus cornuta			PFO	Uncommon
Acer saccharum			PFO	Common
Carex bromoides			PFO, PEM	Abundant
Athyrium angustum			PFO	Common
Rubus pubescens			PFO	Common
Carex gracillima			PFO	Uncommon
Epilobium coloratum			PEM	Common
Scutellaria lateriflora			PEM	Common
Osmunda claytoniana			PEM	Uncommon
Agrimonia striata			PEM	Uncommon
Solidago gigantea			PEM	Uncommon
Rumex obtusifolius			PEM	Uncommon
Carex crinita			PEM	Uncommon
Persicaria sagittata			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland has been altered to have an emergent component, but the plant communities in both components are not significantly disrupted.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
` ,					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
	Х		L	С	Point source or stormwater discharge
	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		L	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	Х		Н		Removal of herbaceous stratum – mowing,
X	^		"	С	grading, earthworms, etc.
		Х	Н	U	Removal of tree or shrub strata – logging,
		^	П	U	unprescribed fire
					Human trails – unpaved
					Human trails – paved
X	X		Н	С	Removal of large woody debris
					Cover of non-native and/or invasive species
	Χ		M	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The area is wormed, and has been used for logging. A residential building has also caused disruption due to woody
vegetation clearing for access.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity			√		
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat		✓			
Shoreline Protection		✓			
Flood and Stormwater Storage	√				
Water Quality Protection		√			
Groundwater Processes			√		

FUNCTION	RATIONALE
Floristic Integrity	No invasive species observed, decent plant community species diversity
Human Use Values	Potential for hunting
Wildlife Habitat	Provides some habitat due to habitat structure interspersion
Fish and Aquatic Life Habitat	Habitat provided by seep groundwater
Shoreline Protection	Dense vegetation in wetland
Flood and Stormwater Storage	Discharges water, does not collect runoff
Water Quality Protection	Filters groundwater
Groundwater Processes	Groundwater discharge through seep

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/C	ounty: Ashland	Sa	ampling Date: <u>2019-10-03</u>	
Applicant/Owner: Enbridge					
Investigator(s): BRG/JSW				· -	
Landform (hillslope, terrace, etc.): Side slope					
Subregion (LRR or MLRA): Northcentral Forests	Lat: 46 309223	Long: -90	670688	Datum: WGS84	
Soil Map Unit Name: Gogebic-Metonga-Rock ou					
Are climatic / hydrologic conditions on the site typic					
Are Vegetation, Soil, or Hydrology _					
Are Vegetation, Soil, or Hydrology _			xplain any answers i		
SUMMARY OF FINDINGS – Attach site	e map showing sam	pling point locatio	ns, transects, ir	nportant features, etc.	
Hydrophytic Vegetation Present? Yes	✓ No	Is the Sampled Area			
Hydric Soil Present? Yes	No <u></u> ✓	within a Wetland?	Yes	No <u>√</u>	
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or		If yes, optional Wetland	Site ID:		
HYDROLOGY					
Wetland Hydrology Indicators:			-	s (minimum of two required)	
Primary Indicators (minimum of one is required; cl		(D0)			
	Water-Stained Leave Aquatic Fauna (B13)		Drainage Patterns (B10)		
	Marl Deposits (B15)		 Moss Trim Lines (B16) Dry-Season Water Table (C2)		
	Hydrogen Sulfide Odd	or (C1)	Crayfish Burrow		
	Oxidized Rhizosphere			le on Aerial Imagery (C9)	
	Presence of Reduced	I Iron (C4)	Stunted or Stres	ssed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reductio	n in Tilled Soils (C6)	Geomorphic Pos	sition (D2)	
	Thin Muck Surface (C	27)	Shallow Aquitare	` '	
	Other (Explain in Ren	narks)	Microtopographi		
Sparsely Vegetated Concave Surface (B8)			FAC-Neutral Te	st (D5)	
Field Observations:	(Danth (inches)				
	✓ Depth (inches): ✓ Depth (inches):				
	✓ Depth (inches):		vdrology Present?	Yes No <u>√</u>	
(includes capillary fringe)			-	165 NO	
Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, pre	vious inspections), if ava	ilable:		
Remarks:					
No indicators of wetland hydrolog	y were observed.				

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of plants	٠.			Sampling Point: wasc050_u
Tree Stratum (Plot size:30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Acer saccharum	30.0	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
Betula alleghaniensis			FAC	
3. Fraxinus pennsylvanica			FACW	Total Number of Dominant Species Across All Strata: 6 (B)
4. Tilia americana				
				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)
5				
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	80.0	= Total Co	ver	OBL species
Sapling/Shrub Stratum (Plot size:15')				FACW species
1. Corylus cornuta				FACU species
2. <u>Abies balsamea</u>	_ <u>5.0</u>	<u>Y</u>	FAC	UPL species
3			 	Column Totals: 142 (A) 473 (B)
4		-		,,,
5				Prevalence Index = B/A =3.33
6		-		Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	10.0	= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹
1. Athyrium angustum	20.0	Υ	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Dryopteris intermedia</u>			FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Mitchella repens</u>			FACU	
4. Maianthemum canadense				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
6.				Definitions of Vegetation Strata:
				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				Woody vines – All woody vines greater than 3.28 ft in height.
	<u>52</u> :	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4		·-		Vegetation Present? Yes No
	0.0	= Total Co	ver	Tresent: Tes v No
Remarks: (Include photo numbers here or on a separate				
The upland is a mesic forest dominated	d by Ace	r sacch	narum ar	nd Betula alleghaniensis.

SOIL Sampling Point: wasc050_u

Profile Desc	cription: (Describe t	o the dep	th needed to docum	nent the i	ndicator	or confirm	n the absence of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	<u>k Features</u> %	Type ¹	Loc ²	Texture Remarks
0-10	7.5YR 2.5/2			70		200	SICL
10-20	5YR 3/4	100					COSL
							·
-							
							· · · · · · · · · · · · · · · · · · ·
¹ Type: C=Co	oncentration, D=Depl	etion, RM:	=Reduced Matrix, MS	=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol			Polyvalue Belov	v Surface	(S8) (LRF	R.R.	2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Ep	pipedon (A2)		MLRA 149B)				Coast Prairie Redox (A16) (LRR K, L, R)
Black Hi	stic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky M				5 cm Mucky Peat or Peat (S3) (LRR K, L, FDark Surface (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed N			, - /	Polyvalue Below Surface (S8) (LRR K, L)
	d Below Dark Surface	e (A11)	Depleted Matrix				Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12) Nucky Mineral (S1)		Redox Dark SurDepleted Dark S		7)		Iron-Manganese Masses (F12) (LRR K, L, I) Piedmont Floodplain Soils (F19) (MLRA 14)
Sandy G	Gleyed Matrix (S4)		Redox Depressi		,		Mesic Spodic (TA6) (MLRA 144A, 145, 149
	Redox (S5) I Matrix (S6)						Red Parent Material (F21) Very Shallow Dark Surface (TF12)
	rface (S7) (LRR R, M	ILRA 1496	3)				Other (Explain in Remarks)
³ Indicators of	f hydrophytic vegetat	ion and we	etland hydrology mus	t be prese	ent, unless	disturbed	d or problematic.
Restrictive I	Layer (if observed):						
Type:							Hadria Ocil Brazzario Van Na (
	ches):						Hydric Soil Present? Yes No✓
Remarks: No hvdrid	c soil indicator	s were	observed.				



wasc050_u_E



wasc050_u_S

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland	Sampling Date: 10-Oct-19
Applicant/Owner: Enbridge	State: WI	Sampling Point: wasw040f
Investigator(s): ES/WC	Section, Township, Range:	s. 7 T. 44N R. 2W
Landform (hillslope, terrace, etc.): Depression	Local relief (concave, convex, r	none): concave Slope:% /
Subregion (LRR or MLRA): LRR K	Lat.: 46.30949747 Long	J.: -90.66735114 Datum: WGS 1984
Soil Map Unit Name: Gogebic, very stony-Pence, ver		NWI classification: None
Are climatic/hydrologic conditions on the site typica	If for this time of year? Yes No	(If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology		Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrology		explain any answers in Remarks.)
Summary of Findings - Attach site ma	,	
Hydrophytic Vegetation Present? Yes • No		is, transcots, important routares, et
	Is the Sampled Area	Yes ● No ○
Yee A No.	within a wetland?	Yes No
Remarks: (Explain alternative procedures here or Sparcely vegetated depression in upland forest.	in a separate report.)	
Sparcely vegetated depression in upland forest.		
Hydrology		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; che	eck all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)	Dry Season Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)
☐ Drift deposits (B3) ☐ Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Recent Iron Reduction in Tilled Soils (C6)	✓ Geomorphic Position (D2) ☐ Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7)	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	FAC-neutral Test (D5)
Field Observations: Surface Water Present? Yes No •	Donth (inches)	
	Depth (inches):	
Water Table Present? Yes No	Depth (inches):6 Wetland Hyd	rology Present? Yes No
Saturation Present? (includes capillary fringe) Yes No	Depth (inches): 16	
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous inspections), if ava	ilable:
Remarks:		

VEGETATION - Use scientific names of pla	ants		ominant		Sampling Point: <u>wasw040f</u>
(5)	Absolute	Re		Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30'	% Cover	_		Status	Number of Dominant Species
1. Fraxinus pennsylvanica	30	ዾ.	34.5%	FACW	That are OBL, FACW, or FAC:4 (A)
2. Tsuga canadensis	17	Ц.	19.5%	FACU	Total Number of Dominant
3. Acer rubrum	35	ዾ.	40.2%	FAC	Species Across All Strata: 4 (B)
4. Acer saccharum		Ц.	5.7%	FACU	
5		Ц.	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
6	0	Ц.	0.0%		That his obe, thow, of the
7		Ш,	0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	87	= To	tal Cove	er	Total % Cover of: Multiply by:
1. Fraxinus nigra	35	~	77.8%	FACW	0BL speci es x 1 =0
O Tougo conodonolo		\Box	11.1%	FACU	FACW speci es $\underline{67}$ x 2 = $\underline{134}$
0. 4		\Box	11.1%	FACU	FAC speci es35 x 3 =105
~		\Box	0.0%		FACU speci es 32 x 4 = 128
4 5		\Box	0.0%		UPL species $\frac{0}{x}$ $5 = \frac{0}{x}$
		\Box	0.0%		Column Totals:134 (A)367 (B)
6		Π.	0.0%		
7		∟. - то			Prevalence Index = B/A = 2.739
Herb Stratum (Plot size: 5')	<u>45</u> :	= 10	tal Cove	er .	Hydrophytic Vegetation Indicators:
1. Carex Intumescens	2	V	100.0%	FACW	Rapid Test for Hydrophytic Vegetation
2		\Box	0.0%		Dominance Test is > 50%
3		\Box	0.0%		✓ Prevalence Index is ≤3.0 ¹
4		\Box	0.0%		Morphological Adaptations ¹ (Provide supporting
5		\Box	0.0%		data in Remarks or on a separate sheet)
		\Box	0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)
6		\Box	0.0%		¹ Indicators of hydric soil and wetland hydrology must
7		\Box	0.0%		be present, unless disturbed or problematic.
8		\Box	0.0%		Definitions of Vegetation Strata:
9		\Box	0.0%		
10		Π.	0.0%		Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
11 12		Π.	0.0%		at breast height (DDH), regardless of height.
12		∟. - то	tal Cove		Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum (Plot size: 15')		= 10	ital Cove	:I	greater than 3.28 ft (1m) tall
1.	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless of
2.	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
4.	0		0.0%		height.
	0 :	= To	tal Cove	r	
					Hydrophytic
					Vegetation Present? Yes • No •
Beneather (Include whate our I					I
Remarks: (Include photo numbers here or on a separate sl	neet.)				

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FW

Soil Sampling Point: wasw040f

Profile Descr	iption: (De	scribe to	the dep	h needed to	documen	nt the indi	cator or o	onfirm the	e absence of indicators.)		
Depth (inches)		Matrix				dox Featu	res1				
(inches)	Color (%_	Color ((moist)	%	Type 1	Loc2	Texture Remar	ks	
0-3	10YR	2/1	100						Silty Clay Loam		
3-8	10YR	4/1	97	10YR	3/4	3	C	PL	Silty Clay Loam		
8-16	10YR	5/1	70	10YR	3/6	5	C	PL	Silty Clay Loam		
+mottle	10YR	4/1	25						Silty Clay Loam		
16-24	7.5YR	4/4	70						Clay Loam		
+mottle	7.5YR	4/6	30						Clay Loam		
¹ Type: C=Cond	centration. D	=Depletio	n. RM=R	educed Matrix,	CS=Cove	red or Coat	ed Sand G	Grains ² Loc	cation: PL=Pore Lining. M=Matrix		
Hydric Soil I	ndicators:								Indicators for Problematic Hydric S	Soils · 3	
Histosol (A	A1)					w Surface	(S8) (LRR	R,	2 cm Muck (A10) (LRR K, L, MLRA		
Histic Epip	pedon (A2)				A 149B)				Coast Prairie Redox (A16) (LRR K, I, WERA	*	
Black Hist	ic (A3)					ace (S9) (5 cm Mucky Peat or Peat (S3) (LRR	·	
	Sulfide (A4)					Mineral (F1		.)	Dark Surface (S7) (LRR K, L, M)	, =, ,	
	Layers (A5)					Matrix (F2))		Polyvalue Below Surface (S8) (LRR	K, L)	
	Below Dark		.11)	= -	eted Matri	ırface (F6)			☐ Thin Dark Surface (S9) (LRR K, L)		
	k Surface (A					Surface (F	7)		☐ Iron-Manganese Masses (F12) (LRR K, L, R)		
_ `	ck Mineral (S	•			ox Depress		• ,		Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Gle	yed Matrix (54)			•	` ,			Mesic Spodic (TA6) (MLRA 144A, 14	45, 149B)	
Stripped N									Red Parent Material (F21)		
	ace (S7) (LR	R R. MLRA	\ 149B)						Very Shallow Dark Surface (TF12)		
				tland hydrolog	v must he	nresent II	nless distu	irhed or prol	Other (Explain in Remarks)		
Restrictive La			ir and we	tiana nyarolog	y must be	present, u	THESS GISTE	indea or pro	Joint to		
Type:	ayer (II obs	erveu).									
Depth (incl	hes):								Hydric Soil Present? Yes N	o O	
Remarks:											

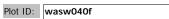


Photo Path: C:\WetForm\ERM Line 5 Pipeline\Photos\



Photo File: DSCN8053.JP

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:



Photo File: DSCN8054.JPG

Orientation:

-facing

Lat/Long or UTM: Long/Easting:

Lat/Northing:

Description:



No Photo

		A CONTRACT OF THE PARTY OF THE	TO SHOW MAN			_	
Photo File: DS	SCN8055.JP	Orientation:	-facing	Photo File: N	one.bmp	Orientation:	-facing
Lor	ng/Easting:	Lat/Northing:		Lo	ong/Easting:	Lat/Northing:	
Description:				Description:			

No Photo

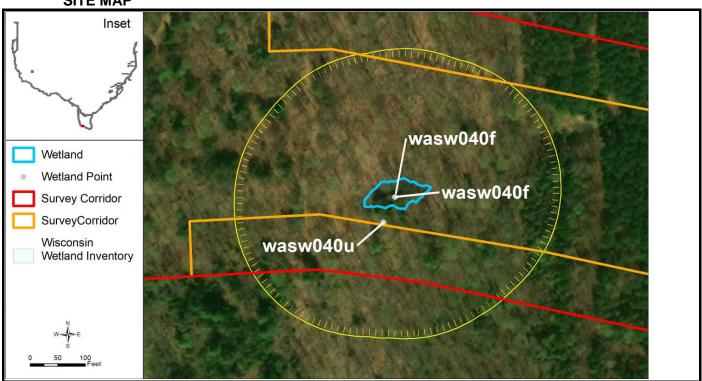
No Photo

Photo File: None	e.bmp Orientat	ion:	-facing	Photo File: None	e.bmp	Orientation:	-facing
Long/	/Easting:	Lat/Northing:		Long/	/Easting:	Lat/N	Northing:
Description:				Description:			

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION wasw040f				
Project name: Line 5 Pipeline	Evaluator(s): Emily Stulik and Wes Conway			
File #:	Date of visit(s): 10/10/2019			
Location: PLSS: WI46 T44N R2W SN7	Ecological Landsca North Central Forest	ape:		
Lat: <u>46.30949747</u> Long: <u>-90.66735114</u>	Watershed:			
County: Ashland Town/City/Village: Mellen	Upper bad river 0401030203			
SITE DESCRIPTION				
Soils: Mapped Type(s): Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes	WWI Class: unmapped Wetland Type(s):			
Field Verified: Yes	hardwood swamp Wetland Size: Wetland Area Impacted			
	0.10	Trouding filed impacted		
Hydrology: seasonally high water table, ponding in depression, ie water stained leaves, sparsely vegetated concave surface	Vegetation: Plant Community D Fraxinus pennsylvanica, intumescens	Description(s): Acer rubrum, Fraxinus nigra, Carex		

SITE MAP



SECTION 1: Functional Value Assessment

_			Functional Value Assessment			
HU	Y/N	Potential	, , , , , , , , , , , , , , , , , , ,			
1		Р	Used for recreation (hunting, birding, hiking, etc.). List: located on private, forested property			
2	N		Used for educational or scientific purposes			
3	N		Visually or physically accessible to public			
4	N		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation			
5	N		In or adjacent to RED FLAG areas			
			List:			
6	N		Supports or provides habitat for endangered, threatened or special concern species			
7		Р	In or adjacent to archaeological or cultural resource site			
WH			Wildlife Habitat			
1	Υ		Wetland and contiguous habitat >10 acres			
2	N		3 or more strata present (>10% cover)			
3	N		Within or adjacent to habitat corridor or established wildlife habitat area			
4	Υ		100 m buffer – natural land cover <a>\sum_50%(south) 75% (north) intact			
5	Ν		Occurs in a Joint Venture priority township			
6	Υ		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)			
7	N		Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other			
'	IN		plans			
8	Υ		Part of a large habitat block that supports area sensitive species			
9	Υ		Ephemeral pond with water present > 45 days			
10	N		Standing water provides habitat for amphibians and aquatic invertebrates			
11	N		Seasonally exposed mudflats present			
12	N		Provides habitat scarce in the area (urban, agricultural, etc.)			
FA			Fish and Aquatic Life Habitat			
1	N		Wetland is connected or contiguous with perennial stream or lake			
2	N		Standing water provides habitat for amphibians and aquatic invertebrates			
3	N		Natural Heritage Inventory (NHI) listed aquatic species within aquatic system			
4	N		Vegetation is inundated in spring			
SP			Shoreline Protection			
1	N		Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable			
	NI		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating			
2	N		water levels or high flows – if no, not applicable			
3	N		Densely rooted emergent or woody vegetation			
ST			Storm and Floodwater Storage			
1	Υ		Basin wetland, constricted outlet, has through-flow or is adjacent to a stream			
2	Υ		Water flow through wetland is NOT channelized			
3	N		Dense, persistent vegetation			
4	Υ		Evidence of flashy hydrology			
5	N		Point or non-point source inflow			
6	N		Impervious surfaces cover >10% of land surface within the watershed			
7	N		Within a watershed with ≤10% wetland			
8			Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event			
WQ			Water Quality Protection			
1	Ν		Provides substantial storage of storm and floodwater based on previous section			
2	Υ		Basin wetland or constricted outlet			
3	Υ		Water flow through wetland is NOT channelized			
4	N		Vegetated wetland associated with a lake or stream			
5	N		Dense, persistent vegetation			
6	N		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth			
7	N		Stormwater or surface water from agricultural land is major hydrology source			
8	N		Discharge to surface water			
9	N		Natural land cover in 100m buffer area < 50%			
GW			Groundwater Processes			
1	Υ		Springs, seeps or indicators of groundwater present			
2	N		Location near a groundwater divide or a headwater wetland			
3	N		Wetland remains saturated for an extended time period with no additional water inputs			
4	N		Wetland soils are organic			
5	N		Wetland is within a wellhead protection area			
J	• •	l	wettand to within a weinhead protection area			

Section 1 Comments (Refer to Section 1 numbers) HU 7 ongoing cultural surveys at project site. WH 2 sparsely vegetated concave surface, <5% herbaceous layer WH 6 forested wetland depression surrounded by upland topo, soil, and veg WH 7, 8 wetland surrounded by intact forested block, suitable habitat WH 9 depression hydrology and soils indicative of <45 day surface water, ie sparsely vegetated concave surface, water stained leaves, reduced matrix ST 1 wetland is a depression/basin ST 4 water table, sparsely vegetated concave surface, water stained leaves Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Ruffed grouse Pseudacris crucifer auditory call Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name Common Name		C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Acer rubrum*	red maple	3		35%
Acer saccharum	hard maple, sugar maple	5		10%
Carex intumescens*	greater bladder sedge, shining bur sedge	5		2%
Fraxinus nigra*	black ash	8		35%
Fraxinus pennsylvanica*	green ash, red ash	2		30%
Tsuga canadensis	eastern hemlock, hemlock, northern hemlock	8		22%

SUMMARY ()F FI	ORISTIC	INTEGRITY	(Include general	I comments on pla	nt communities'
COMMENT	/I I L	.01110110		miliciade dellera	i commenta on bia	iii coiiiiiuiiiica

missing herbaceous stratum due to sparsely vegetated concave surface.							

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment	Buffer	Historic	Impact	Relative	Stressor	
Area (AA)			Level*	Frequency**		
					Filling, berms (non-impounding)	
					Drainage – tiles, ditches	
					Hydrologic changes - high capacity wells,	
					impounded water, increased runoff	
					Point source or stormwater discharge	
					Polluted runoff	
					Pond construction	
					Agriculture – row crops	
					Agriculture – hay	
					Agriculture – pasture	
					Roads or railroad	
					Utility corridor (above or subsurface)	
					Dams, dikes or levees	
					Soil subsidence, loss of soil structure	
					Sediment input	
					Removal of herbaceous stratum – mowing,	
					grading, earthworms, etc.	
X	х		М	UC	Removal of tree or shrub strata – logging,	
^	^		IVI	00	unprescribed fire	
					Human trails – unpaved	
					Human trails – paved	
X	Х		M	UC	Removal of large woody debris	
					Cover of non-native and/or invasive species	
					Residential land use	
					Urban, commercial or industrial use	
					Parking lot	
					Golf course	
					Gravel pit	
					Recreational use (boating, ATVs, etc.)	
	Х		М	UC	Excavation or soil grading	
					Other (list below):	
	1		1	1		

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Downed, felled trees observed adjacent to wetland and within surrounding area (100m) soil excavation/construction also observed within
assessment area

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION		SIGNIFICANCE									
	Low	Medium	High	Exceptional	NA						
Floristic Integrity		Х									
Human Use Values	х										
Wildlife Habitat		Х									
Fish and Aquatic Life Habitat	х										
Shoreline Protection					х						
Flood and Stormwater Storage	Х										
Water Quality Protection	Х										
Groundwater Processes	х										

FUNCTION	RATIONALE
Floristic Integrity	herbaceous strata missing due to sparsely vegetated concave surface.
Human Use Values	observed construction, excavation, felling
Wildlife Habitat	reasonable assumption wetland supports amphibian breeding and is vernal pond in springtime, within large upland forest bloc
Fish and Aquatic Life Habitat	amphibian breeding pond
Shoreline Protection	N/A
Flood and Stormwater Storage	acts as basin but is 0.1 ac, is forested depressional wetland. Hydrology suggests longer term saturation (reduced matrix, water stained leaves, sparsely vegetated concave surface)
Water Quality Protection	minimal, 0.1 ac wetland. Not associated with stream
Groundwater Processes	evidence of indicators

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.
Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling. Tree removal	medium
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation and tree removal for construction. wildlife habitat buffer- amphibian breeding vernal pool adj to upland habitat	medium
Cumulative Impacts	Operational vegetation maintenance	low
Spatial/Habitat Integrity	Temporary construction impacts.	low
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: /	Ashland	Sampling Date: 10-Oct-19
Applicant/Owner: Enbridge	_	State: WI	Sampling Point: wasw040u
Investigator(s): ES/WC	Section, Tov	 vnship, Range: ع	5. 7 T. 44N R. 2W
Landform (hillslope, terrace, etc.): Mound	_		one): undulating Slope: 1.7 % / 1.0
Subregion (LRR or MLRA): LRR K Lat.:	46.30937254	Long.	: -90.66743877
Soil Map Unit Name: Gogebic, very stony-Pence, very stony-Cathro co	omplex, 0 to 6 p	ercent slopes	NWI classification: None
Are climatic/hydrologic conditions on the site typical for this time of y	ear? Yes	No ○	(If no, explain in Remarks.)
	ly disturbed?	Are "Normal (Circumstances" present? Yes ● No ○
	roblematic?		xplain any answers in Remarks.)
Summary of Findings - Attach site map showing s			
Hydrophytic Vegetation Present? Yes No •			· · · · · · · · · · · · · · · · · · ·
Hydric Soil Present? Yes ○ No ●		Sampled Area	Yes ○ No ●
Wetland Hydrology Present? Yes ○ No •	Within	a Wetland?	
Remarks: (Explain alternative procedures here or in a separate repo	ort.)		
Hydrology Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Marl Deposits (B1)	13)		Secondary Indicators (minimum of 2 required) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide			Crayfish Burrows (C8)
	neres along Living	Roots (C3)	Saturation Visible on Aerial Imagery (C9)
☐ Drift deposits (B3) ☐ Presence of Redu			Stunted or Stressed Plants (D1)
	ction in Tilled Soils	(C6)	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Thin Muck Surface	e (C7)		Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in	Remarks)		Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-neutral Test (D5)
			ology Present? Yes O No able:
Pomarks:			
Remarks:			

VEGETATION - Use scientific names of p			ominant pecies?		Sampling Point: wasw040u
(Diet size, 20'	Absolute	e R	el.Strat.	Indicator	Dominance Test worksheet:
(Plot size: 30'	% Cove			Status	Number of Dominant Species
1 . Tsuga canadensis		✓		FACU	That are OBL, FACW, or FAC:1 (A)
Ostrya virginiana			9.1%	FACU	Total Number of Dominant
3. Acer saccharum		✓	45.5%	FACU	Species Across All Strata:6(B)
4			0.0%		Description of the standard Country
5	0	Ц	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)
5	0	Ц	0.0%		That hie obe, thow, of the
7	0		0.0%		Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15')	55	= T	otal Cove	er	Total % Cover of: Multiply by:
A. Ostova viloslotana	/ 5		07.707	FACIL	0BL speci es
1 . Ostrya virginiana		✓	-	FACU	FACW species 5 x 2 = 10
2. Acer saccharum			6.7%	FACU	FAC speciles8 x 3 =24
3. Quercus rubra			2.7%	FACU	FACU species $135 \times 4 = 540$
1. Tsuga canadensis			4.0%	FACU	UPL species $\frac{3}{3}$ x 5 = $\frac{15}{3}$
5			0.0%		<u> </u>
6	0		0.0%		Column Totals: <u>151</u> (A) <u>589</u> (B)
7	0	Ш	0.0%		Prevalence Index = B/A = 3.901
Herb Stratum (Plot size: 5')	75	= T	otal Cove	r	Hydrophytic Vegetation Indicators:
					Rapid Test for Hydrophytic Vegetation
1. Prunus serotina		✓	-	FACU	☐ Dominance Test is > 50%
Acer rubrum			9.5%	FAC	Prevalence Index is ≤3.0 ¹
3. Trientalis borealis			9.5%	FAC	Morphological Adaptations ¹ (Provide supporting
1. Carex pedunculata	2	Ш	9.5%	FAC	data in Remarks or on a separate sheet)
Eurybia macrophylia	3	✓	14.3%	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
S. Dryopteris carthusiana	5	✓	23.8%	FACW	
7. Symphyotrichum lateriflorum	2		9.5%	FAC	1 Indicators of hydric soil and wetland hydrology mus
8	0		0.0%		be present, unless disturbed or problematic.
9			0.0%	-	Definitions of Vegetation Strata:
). <u> </u>			0.0%	-	Tree - Woody plants, 3 in. (7.6 cm) or more in diameter
1			0.0%		at breast height (DBH), regardless of height.
2.			0.0%		
		= T	otal Cove	r	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall
Noody Vine Stratum (Plot size: 15')					greater than 3.20 it (1111) tall
1	0		0.0%		Herb - All herbaceous (non-woody) plants, regardless
2	0		0.0%		size, and woody plants less than 3.28 ft tall.
3	0		0.0%		Woody vine - All woody vines greater than 3.28 ft in
4	0		0.0%		height.
		= T	otal Cove	r	
		-		-	
					Hydrophytic
					Vegetation
					Present? Yes O No O
					<u> </u>
emarks: (Include photo numbers here or on a separate	sheet.)				
·					

^{*}Indicator suffix = National status or professional decision assigned because Regional status not defined by FW

Soil Sampling Point: wasw040u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth		Matrix			lox Features				
(inches)	Color (%	Color (moist)	<u>%</u> Type	e 1 Loc2	Texture	Remarks	
0-4	10YR	3/2	100				Silt Loam		
4-16	7.5YR	4/4	85				Silt Loam		
+mottle	10YR	3/2	15				Silt Loam		
16-24	7.5YR	4/4	100				Loam		
		-			-				
		-							
			-						
1- 00									
* *		=Depletio	n. RM=Re	duced Matrix, CS=Covere	ed or Coated San	d Grains ² Loo	cation: PL=Pore Lining. M=M		
Hydric Soil I					0 5 (00) (1)		Indicators for Probler	matic Hydric Soils : ³	
Histosol (-			MLRA 149B)	V Surface (S8) (LI	RR R,		RR K, L, MLRA 149B)	
Black Hist	pedon (A2)				ice (S9) (LRR R,	MLRA 149B)	Coast Prairie Redox	(A16) (LRR K, L, R)	
_	Sulfide (A4)				Mineral (F1) LRR I			Peat (S3) (LRR K, L, R)	
1 — ' "	Layers (A5)			Loamy Gleyed N			Dark Surface (S7) (
_	Below Dark S	Surface (A	.11)	Depleted Matrix	(F3)			rface (S8) (LRR K, L)	
	k Surface (A		ŕ	Redox Dark Sur	face (F6)		Thin Dark Surface (
Sandy Mu	ick Mineral (S	S1)		Depleted Dark				isses (F12) (LRR K, L, R) n Soils (F19) (MLRA 149B)	
Sandy Gle	eyed Matrix (S4)		Redox Depressi	ons (F8)			(MLRA 144A, 145, 149B)	
Sandy Re	dox (S5)						Red Parent Material		
Stripped I	Matrix (S6)						☐ Very Shallow Dark S		
☐ Dark Surf	ace (S7) (LR	R R, MLRA	149B)				Other (Explain in Re		
³ Indicators of	f hydrophytic	vegetatio	n and wet	land hydrology must be	present, unless d	sturbed or pro		,	
Restrictive L						•			
Type:									
Depth (inc	hes):						Hydric Soil Present?	Yes ○ No •	
Remarks:									
nomano.									



Photo File: DSCN8056.JP -facing Orientation:

Lat/Long or UTM: Long/Easting: Lat/Northing:

Description:



Photo File: DSCN8057.JPG Orientation: -facing

Lat/Long or UTM: Long/Easting:

Description:

Lat/Northing:



No Photo

No Photo

Photo File: None.bmp	Orientation:	-facing	Photo File: None.bmp	Orientation:	-facing
Long/Easting:	Lat/Northing:		Long/Easting:	Lat/Northing:	
Description:			Description:		

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-03		
Applicant/Owner: Enbridge					
Investigator(s): BRG/JSW	Section, Township	, Range: <u>044N-002</u>	2W-07		
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.30					
Soil Map Unit Name: Gogebic-Metonga-Rock outcrop comp					
Are climatic / hydrologic conditions on the site typical for this tim					
Are Vegetation _ ✓ , Soil, or Hydrology signi	-				
Are Vegetation, Soil, or Hydrology nature		(If needed, explain any a	,		
SUMMARY OF FINDINGS – Attach site map sho	wing sampling poli	nt locations, trans	ects, important features, etc.		
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sam		, No		
Hydric Soil Present? Yes ✓ No		etland? Yes _			
Wetland Hydrology Present? Yes ✓ No		nal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a separa The wetland is a fresh wet meadow that h	te report.) Jas been disturbed	d by recent and l	historic logging activity.		
Piles of woody debris created by logging a		•			
to this disturbance. The feature is part of a	=		The firmlesty of the owners and		
and another services and to paint of	x .ege : = : e				
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary	Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that	annly)				
1			Surface Soil Cracks (B6) Drainage Patterns (B10)		
					
	posits (B15)		rim Lines (B16) ason Water Table (C2)		
Sediment Deposits (B2) Oxidized					
	ce of Reduced Iron (C4)		d or Stressed Plants (D1)		
	Iron Reduction in Tilled So				
	ick Surface (C7)		v Aquitard (D3)		
	Explain in Remarks)		opographic Relief (D4) eutral Test (D5)		
Sparsely Vegetated Concave Surface (B8) Field Observations:			eutrai Test (D5)		
	(inches):				
Saturation Present? Yes ✓ No Depth (Wetland Hydrology P	resent? Yes/ No		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspect	tions), if available:			
Remarks:					
The hydrologic regime is seasonally satur			ie wetland is fed in part		
by the small stream sasc033e, which diss	ipates in the wetla	and.			
1					

VEGETATION – Use scientific names of plants.

EGETATION – Use scientific names of plants.				Sampling Point: wasc051e_w
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>				Number of Dominant Species That Are OBL, FACW, or FAC: 3.0 (A)
2				Total Number of Dominant Species Across All Strata: 3.0 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.0 (A/B)
6.				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	10.0	= Total Co	ver	OBL species x 1 = 88.0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>35.0</u> x 2 = <u>70.0</u>
1	<u> </u>			FAC species 5.0 x 3 = 15.0
2				FACU species <u>0.0</u> x 4 = <u>0.0</u>
3				UPL species <u>0.0</u> x 5 = <u>0.0</u>
4.				Column Totals: <u>108.0</u> (A) <u>153.0</u> (B)
5				Prevalence Index = B/A =1_4
6				Hydrophytic Vegetation Indicators:
7				
		= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹
1. <u>Calamagrostis canadensis</u>	40.0	Υ	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Impatiens capensis</u>	15.0	Υ	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Persicaria sagittata	400		OBL	
4. Eutrochium maculatum	10.0	N	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Rubus idaeus	5.0	N	FAC	Definitions of Vegetation Strata:
6. <u>Solidago gigantea</u>	5.0	N	FACW	
7. <u>Scirpus cyperinus</u>		N	OBL	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. <u>Onoclea sensibilis</u>		N	FACW	Sapling/shrub – Woody plants less than 3 in. DBH
9. <i>Epilobium coloratum</i>	2.0	N	OBL	and greater than or equal to 3.28 ft (1 m) tall.
10. <u>Verbena hastata</u>	2.0	N	FACW	Herb – All herbaceous (non-woody) plants, regardless
11. Equisetum sylvaticum	1.0	N	FACW	of size, and woody plants less than 3.28 ft tall.
12. Galium asprellum	1.0	N	OBL	Woody vines – All woody vines greater than 3.28 ft in
,	98.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4.				Vegetation
		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate	sheet.)	<u> </u>		
The wetland is a highly disturbed area				rostis canadensis, with a mix of

advantageous species present throughout the feature.

SOIL Sampling Point: wasc051e_w

	cription: (De	scribe t	o the dep	th needed				or confirm	the absence	of indicators.)	
Depth Matrix (inches) Color (moist) %		0/2	Redox Features Color (moist) % Type ¹ Loc ²					Texture	Remarks		
0-10	10YR		100	00101 (11	10101)		Турс		MMI	Komano	
	10YR	2/1		7.5YR	4/6	5	С	M	CL	Prominent redox	
¹ Type: C=C	oncentration, Indicators:	D=Depl	etion, RM	=Reduced N	Matrix, MS	=Masked	Sand Gra	ains.		n: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149)			 Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) 					2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)			
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed):											
Type:											
Depth (inches):								Hydric Soil Present? Yes/ No			
Remarks: Soils are	mucky a	lbove	with re	edox in t	he low	ver laye	er.				



wasc051e_w_E



wasc051e_w_S

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-03	
Applicant/Owner: Enbridge				
Investigator(s): BRG/JSW	Section, Township	o, Range: <u>044N-002W</u>	<i>'</i> -07	
Landform (hillslope, terrace, etc.): Depression Subregion (LRR or MLRA): Northcentral Forests Lat: 46	Local relief (concave,	convex, none): Concav	<u>'e</u> Slope (%): <u>0-2%</u>	
Soil Map Unit Name: Gogebic, very stony-Pence, very st				
Are climatic / hydrologic conditions on the site typical for thi			-	
Are Vegetation _ ✓ , Soil, or Hydrologys				
Are Vegetation, Soil, or Hydrology r				
SUMMARY OF FINDINGS – Attach site map				
	1.11.0	<u> </u>	, p	
Hydrophytic Vegetation Present? Yes ✓ N	within a W	etland? Yes <u>v</u>	/ No	
Hydric Soil Present? Yes _ ✓ _ N Wetland Hydrology Present? Yes _ ✓ _ N				
Remarks: (Explain alternative procedures here or in a se		onal Welland Sile ID.		
The wetland is a large hardwood swam disturbed by logging.	•	, ,	·	
HYDROLOGY				
Wetland Hydrology Indicators:			icators (minimum of two required)	
Primary Indicators (minimum of one is required; check all		Surface So		
	ter-Stained Leaves (B9)	 Drainage Patterns (B10) Moss Trim Lines (B16)		
	latic Fauna (B13)			
	d Deposits (B15) Progen Sulfide Odor (C1)		on Water Table (C2) ourrows (C8)	
	dized Rhizospheres on Living		Visible on Aerial Imagery (C9)	
	sence of Reduced Iron (C4)		Stressed Plants (D1)	
	cent Iron Reduction in Tilled Sc		nic Position (D2)	
Iron Deposits (B5) Thir	n Muck Surface (C7)	Shallow A	quitard (D3)	
	er (Explain in Remarks)		graphic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)		FAC-Neuti	ral Test (D5)	
Field Observations:				
	epth (inches):			
	epth (inches): 1	Watland Hudualanu Buas	anto Vac (Na	
(includes capillary fringe)		Wetland Hydrology Pres	ent? Yes <u>√</u> No	
Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspec	tions), if available:		
Remarks:				
The hydrologic regime is seasonally sa	· · · · · · · · · · · · · · · · · · ·			
affected by either beaver activity or log	ging activity. Rain ev	vents occurred pric	or to and during the	
time of survey. A small stream feeds in	to this component of	f the wetland.		

Trace Otractions (Plates's asset 201	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. <u>Fraxinus nigra</u>			FACW	That Are OBL, FACW, or FAC:3(A)
2. <u>Tilia americana</u>				Total Number of Dominant
3. <u>Ulmus americana</u>			FACW	Species Across All Strata: (B)
4. <u>Acer rubrum</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: 60.00 (A/B)
5				That Are OBL, FACW, or FAC: 60.00 (A/B)
6		1	-	Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	80.0	= Total Co	ver	OBL species 2 x 1 = 2
Sapling/Shrub Stratum (Plot size: 15')				FACW species <u>124</u> x 2 = <u>248</u>
1. Acer saccharum	10.0_	<u>Y</u>	<u>FACU</u>	FAC species x 3 = 51 FACU species 35 x 4 = 140
2. <u>Ulmus americana</u>	10.0_	Y	<u>FACW</u>	UPL species0 x5 =0
3				Column Totals: 178 (A) 441 (B)
4		-		
5				Prevalence Index = B/A = 2.48
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	20	= Total Co	ver	✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹
1. Carex bromoides	60.0	Y	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Dryopteris intermedia		N	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Acer saccharum		N	FACU	
4. Equisetum arvense		N	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Rubus pubescens</u>		N	FACW	Definitions of Vegetation Strata:
6. Symphyotrichum puniceum		N	OBL	
7. Fraxinus nigra		N	FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
· -		= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')		- 10101 00	VOI	
1				
2				Hadarahad's
3				Hydrophytic Vegetation
4		= Total Co		Present?
Remarks: (Include photo numbers here or on a separate		= 10(a) Co	vei	
The hardwood swamp component is do		d by Fra	axinus n	igra and Carex bromoides.
·				

Sampling Point: wasc051f_w

SOIL Sampling Point: wasc051f_w

Profile Desc	cription: (Describe	to the de	oth needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth (inches)	Matrix	%	Color (m		x Features		Loc ²	Toyturo	Remarks
(inches) 0-14	Color (moist) 10YR 2/1	100	Color (II	ioist)	<u> </u>	Type'	LOC	Texture MMI	Remarks
	10YR 3/2		7 5VR	3//	5		M	CL	Distinct redox
14-20	10111 3/2	_33_	<u> </u>	3/4			<u>IVI</u>	<u> </u>	Distinct redox
					· ——				
					· 				
			-						
1Type: C=C	oncentration, D=Depl	letion RM	-Reduced M	Astriv MS	S-Masked	Sand Gr		² l ocation	n: PL=Pore Lining, M=Matrix.
Hydric Soil		iction, raw	=rcaacca iv	iatrix, ivic	J-Maskee	Odria Oi	airis.		s for Problematic Hydric Soils ³ :
Histosol					w Surface	(S8) (LR	R R,		Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)			RA 149B) ark Surfa		RRR M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)
I	en Sulfide (A4)				/lineral (F				Surface (S7) (LRR K, L)
	d Layers (A5)	(0.4.4)	-	-	Matrix (F2)			alue Below Surface (S8) (LRR K, L)
	d Below Dark Surface ark Surface (A12)	e (A11)		ed Matrix Dark Su	(F3) rface (F6)				Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)				Surface (F	7)			nont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4)		Redox	Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) d Matrix (S6)								Parent Material (F21) Shallow Dark Surface (TF12)
	urface (S7) (LRR R, N	ILRA 149	B)						(Explain in Remarks)
³ Indicators o	of hydrophytic vegetat	ion and w	etland hydro	logy mus	st be prese	ent, unles	s disturbed (or problemati	C.
	Layer (if observed):		,	- 07	<u>'</u>			·	
Type:									
Depth (in	ches):							Hydric Soi	I Present? Yes No
Remarks:	mucky loam	over da	ark clay l	nam v	with roc	lov in	the lowe	r profile	
Solis are	HIUCKY IDAIII (JVEI U	iik Clay i	uaiii v	vitii i e c	ווו אטג	ille lowe	i prome.	



wasc051f_w_N



wasc051f_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): BRG/JSW			
File #:				
wasc051	Date of visit(s): 10/03/2019			
Location:	Ecological Landsca	ipe:		
PLSS: <u>044N-002W-07</u>	North Central Forest			
Lat: <u>46.309825</u> Long: <u>-90.666099</u>	Watershed: LS14, Upper Bad River			
County: Ashland Town/City/Village: Morse town				
SITE DESCRIPTION				
Soils:	WWI Class:			
Mapped Type(s):	T3/5K, T5/S3K			
809C Gogebic-Metonga-Rock outcrop complex, 5172C Gogebic, very stony-Pence, very stony-Cathro complex, 5171B Tula-Wormet-Gogebic complex	Wetland Type(s): PEM/PFO complex - Fresh wet meadow/Hardwood			
Field Verified:	swamp			
Series not verified. Soils were a mucky mineral	Wetland Size:	Wetland Area Impacted		
over clay loam in both the forested and emergent	2.46	2.46		
components.	Vegetation:			
Hydrology: The hydrologic regime is seasonally saturated, with recharge hydrology. Several small streams feed into the wetland and one stream flows through it. The hydrology has been disturbed by logging throughout, most notably through the compaction of unpaved logging roads and piling of woody	canadensis, with a mix of disturbed areas, and the The hardwood swamp of	Description(s): component dominated by Calamagrostis of other herbaceous vegetation found often in dominant herbaceous vegetation is variable. component is dominated by Fraxinus nigra on an herbaceous layer of Carex bromoides.		
debris.				

SIT	E MAP	 	 	

SECTION 1: Functional Value Assessment

1			ECTION 1:	Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N N V Susually or physically accessible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Wildliffe Habitat 1 Y Y Wetland and contiguous habitat >10 acres 2 Y Y 3 or more strate present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex.etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 110 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 112 N N Provides habitat scarce in the area (urban, agricultural, etc.) 113 Fish and Aquatic Life Habitat 1 N N Vetand is connected or contiguous with perennial stream or lake 1 N Y Standing water provides habitat for amphibians and aquatic invertebrates 1 N N N Natural Heritage inventory (NHI) listed aquatic species within aquatic system 1 N N Seasonally exposed mudflats present 1 N N Setural Heritage inventory (NHI) listed aquatic species within aquatic system 1 N N Setural Heritage inventory (NHI) listed aquatic species within aquatic system 1 N N Setural Heritage inventory (NHI) listed aquatic species within aquatic system 1 N N Setural Heritage inventory (NHI) listed aquatic species within aquatic system 1 N N Setural Heritage inventory (NHI) listed aquatic species within aquatic system 1 N N Setural Heritage inventory (NHI) listed aquatic species within aquatic system 1 N N Potential to hold ≥ 10	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
3	2	N	N	Used for educational or scientific purposes
A N Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation	3	N	N	
In or adjacent to RED FLAG areas Isis:	4			
S		- ' '	- 11	
File	5	N	N	
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	N	N	
Wildlife Habitat Y		IN	IN	
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5 N Wetland is within a wellhead protection area			I KI	Westland in within a wellhood protection area

Section 1 Comments (Refer to Section 1 numbers) ST-2: water flow is channelized in some parts, but not channelized throughout the majority of the wetland ST-3: due to logging activity, the wetland is full of advantageous herbaceous vegetation WQ-8: in some areas the wetland discharges water, but this is not the major hydrologic effect of the wetland Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Deer/mammals Υ Avian Amphibians Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant [Common	Uncommon	Rare
FQI (optional) Mean C (optional)	<13<2.4	13-23 2.4-4.2	23-32 4.3-4.7	>32

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO, PEM	Abundant
Tilia americana			PFO	Common
Ulmus americana			PFO	Common
Acer rubrum			PFO	Common
Acer saccharum			PFO	Common
Carex bromoides			PFO	Abundant
Dryopteris intermedia			PFO	Uncommon
Equisetum arvense			PFO	Uncommon
Rubus pubescens			PFO	Uncommon
Symphyotrichum puniceum			PFO	Uncommon
Calamagrostis canadensis			PEM	Common
Impatiens capensis			PEM	Common
Persicaria sagittata			PEM	Common
Eutrochium maculatum			PEM	Common
Rubus idaeus			PEM	Uncommon
Solidago gigantea			PEM	Uncommon
Scirpus cyperinus			PEM	Uncommon
Onoclea sensibilis			PEM	Uncommon
Epilobium coloratum			PEM	Uncommon
Verbena hastata			PEM	Uncommon
Equisetum sylvaticum			PEM	Uncommon
Galium asprellum			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Disturbed by logging, and filled with common advantageous species. Some upland pockets of young forest are present. Invasive cover is minimal, and diversity is still decent.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
X	Х		Н	С	Point source or stormwater discharge
X	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	Х		M	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
V	V	V		0	Removal of tree or shrub strata – logging,
X	X	X	Н	С	unprescribed fire
X	Х		Н	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland has been stressed by present and historic logging activity. Logging machinery travel has created compacted unpaved trails.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity			√		
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat	√				
Shoreline Protection		✓			
Flood and Stormwater Storage			√		
Water Quality Protection			√		
Groundwater Processes		✓			

FUNCTION	RATIONALE
Floristic Integrity	Altered plant community with advantageous species, but no invasives and decent diversity in both components
Human Use Values	Hunting
Wildlife Habitat	Deer and avian habitat, diverse habitat structures
Fish and Aquatic Life Habitat	Habitat provided after rain events and by streams
Shoreline Protection	The wetland is densely vegetated
Flood and Stormwater Storage	Depressional wetland that obtains some runoff from compacted logging trails. The wetland is large
Water Quality Protection	Densely vegetated depression of large size, associated with several streams
Groundwater Processes	Groundwater recharge, some discharge in areas

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: 2019-10-03				
•		State: WI Sampling Point: wasc051e_u					
Investigator(s): BRG/JSW	Section, Township, Range: 044N-002W-07						
Landform (hillslope, terrace, etc.): Footslope							
Subregion (LRR or MLRA): Northcentral Forests L	_at: 46.309950	Long: -90.666132	Datum: WGS84				
Soil Map Unit Name: Gogebic-Metonga-Rock out							
Are climatic / hydrologic conditions on the site typica							
Are Vegetation _ ✓ , Soil, or Hydrology _							
Are Vegetation, Soil, or Hydrology _							
SUMMARY OF FINDINGS – Attach site	map snowing sampling	g point locations, transec	ts, important features, etc.				
Hydrophytic Vegetation Present? Yes	110	e Sampled Area					
	NO <u></u>	n a Wetland? Yes	No <u>√</u>				
	-	, optional Wetland Site ID:					
Remarks: (Explain alternative procedures here or The upland is a logged mesic fore	in a separate report.) st that has also been	affected by worms					
The upland is a logged mesic lore	ot that has also been	ancolou by worms.					
HYDROLOGY							
Wetland Hydrology Indicators:		· · · · · · · · · · · · · · · · · · ·	licators (minimum of two required)				
Primary Indicators (minimum of one is required; ch	<u> Water-Stained Leaves (B9)</u>						
	Aquatic Fauna (B13) Marl Deposits (B15)		<pre> Moss Trim Lines (B16) Dry-Season Water Table (C2)</pre>				
	Hydrogen Sulfide Odor (C1)	-	Burrows (C8)				
	 Oxidized Rhizospheres on I 		Visible on Aerial Imagery (C9)				
	Presence of Reduced Iron (= ' ' '	r Stressed Plants (D1)				
1 - · · · · · · · -	Recent Iron Reduction in Ti	· —	nic Position (D2)				
	Thin Muck Surface (C7)	Shallow A					
	Other (Explain in Remarks)		graphic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)			ral Test (D5)				
Field Observations:							
Surface Water Present? Yes No	/ Depth (inches):						
Water Table Present? Yes No	/ Depth (inches):						
	Depth (inches):	Wetland Hydrology Pres	sent? Yes No <u>√</u>				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitorin	ng well, aerial photos, previous i	nspections), if available:					
	71	,					
Remarks: No indicators of wetland hydrology	v were observed						
The indicators of Welland Hydrology	y word about vou.						

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants.				Sampling Point: wasc051e_u
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Acer saccharum	20.0	Y	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2. <u>Pinus resinosa</u>	20.0	Y	<u>FACU</u>	Total Number of Dominant
3. <u>Thuja occidentalis</u>	10.0	_N_	FACW	Species Across All Strata: 7 (B)
4. Quercus rubra	10.0	N	<u>FACU</u>	Percent of Dominant Species
5	_			That Are OBL, FACW, or FAC: 14.29 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	60.0	= Total Co	ver	OBL species
Sapling/Shrub Stratum (Plot size:)				FACW species15 x 2 =30
1. Corylus cornuta	30.0	Y	FACU	FAC species0 x 3 =0
2. <u>Tilia americana</u>				FACU species 107 x 4 = 428
3. Acer saccharum				UPL species 0 x 5 = 0
4.				Column Totals:122 (A)458 (B)
5.				Prevalence Index = B/A = 3.75
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		2 - Dominance Test is >50%
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹
1. Acer saccharum	5.0	Υ	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Fraxinus pennsylvanica			FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Tilia americana			FACU	
4.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5.				Definitions of Vegetation Strata:
6.				
7.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2.				
3.				Hydrophytic
4.				Vegetation
		= Total Co	ver	Present? Yes No✓_
Remarks: (Include photo numbers here or on a separate s	sheet.)	•		
The upland has been recently logged, a Pinus resinosa has been planted for fut				cover is somewhat reduced. The
realized has been planted for fat				

SOIL Sampling Point: wasc051e_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indicators.)	
Depth	Matrix			x Feature:		1 2	Texture Remarks	
(inches)	7.5YR 3/2	100	Color (moist)	%	Type'	Loc ²	Texture Remarks	
8-20	7.5YR 4/6						VFSL	
0-20	7.511X 4/O	100					VI SL	
		-						
				· ·				
		· <u> </u>						
¹ Type: C=C	oncentration, D=Depl	letion. RM=	Reduced Matrix. MS	S=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil							Indicators for Problematic Hydric Soils ³ :	:
Histoso		•	Polyvalue Belov		(S8) (LRF	RR,	2 cm Muck (A10) (LRR K, L, MLRA 14	
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		RR R, MI	RA 149B)	Coast Prairie Redox (A16) (LRR K, L,5 cm Mucky Peat or Peat (S3) (LRR K	,
Hydroge	en Sulfide (A4)		Loamy Mucky N	/lineral (F	1) (LRR K		Dark Surface (S7) (LRR K, L)	
	d Layers (A5) d Below Dark Surface	e (A11)	Loamy Gleyed I Depleted Matrix		2)		Polyvalue Below Surface (S8) (LRR K,Thin Dark Surface (S9) (LRR K, L)	, L)
	ark Surface (A12)		Redox Dark Su				Iron-Manganese Masses (F12) (LRR M	(, L, R)
	Mucky Mineral (S1)		Depleted Dark \$		7)		Piedmont Floodplain Soils (F19) (MLR	
	Gleyed Matrix (S4) Redox (S5)		Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145 Red Parent Material (F21)	, 149B)
Stripped	d Matrix (S6)						Very Shallow Dark Surface (TF12)	
Dark Su	ırface (S7) (LRR R, N	ILRA 149B)				Other (Explain in Remarks)	
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:							Hydric Soil Present? Yes No	,
Depth (in Remarks:	ches):						nyunc son Fresent: Tes No	
	c soil indicator	s were	observed.					



wasc051e_u_E



wasc051e_u_N

Project/Site: Line 5 Relocation Project	City/County: Asl	nland	Sampling Date: 2019-10-03				
Applicant/Owner: Enbridge	State: WI Sampling Point: wasc051f_u						
Investigator(s): BRG/JSW Section, Township, Range: 044N-002W-07							
Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slo							
Subregion (LRR or MLRA): Northcentral Forests Lat: 2	16.309111	Long: -90.662274	Datum: WGS84				
Soil Map Unit Name: Gogebic, very stony-Pence, very							
Are climatic / hydrologic conditions on the site typical for t							
Are Vegetation, Soil, or Hydrology							
Are Vegetation, Soil, or Hydrology							
SUMMARY OF FINDINGS – Attach site ma	showing sampling poi	nt locations, transects	s, important features, etc.				
Hydrophytic Vegetation Present? Yes	No <u>√</u> Is the Sam						
Hydric Soil Present? Yes	INO <u>V</u>	etland? Yes	No/				
Wetland Hydrology Present? Yes		onal Wetland Site ID:					
Remarks: (Explain alternative procedures here or in a s The upland is a mesic forest that has	eparate report.) heen disturhed in the	nast by logging, an	nd as a result is				
somewhat young.		past by logging, an	id do a result is				
Somewhat young.							
HYDROLOGY							
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)				
Primary Indicators (minimum of one is required; check a	• • • • • • • • • • • • • • • • • • • •						
	ater-Stained Leaves (B9)	Drainage Pa					
High Water Table (A2) A	Moss Trim L						
	arl Deposits (B15)		Water Table (C2)				
	ydrogen Sulfide Odor (C1) xidized Rhizospheres on Living	Crayfish Bu	/isible on Aerial Imagery (C9)				
	resence of Reduced Iron (C4)		Stressed Plants (D1)				
	ecent Iron Reduction in Tilled So		c Position (D2)				
	nin Muck Surface (C7)	Shallow Aqu					
	ther (Explain in Remarks)		raphic Relief (D4)				
Sparsely Vegetated Concave Surface (B8)	, , ,		al Test (D5)				
Field Observations:			,				
Surface Water Present? Yes No _ ✓ _ [Depth (inches):						
	Pepth (inches):						
	Depth (inches):	Wetland Hydrology Prese	nt? Yes No <u>√</u>				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring wel	Laerial photos previous inspec	tions) if available:					
Describe Necorded Bata (stream gauge, monitoring well	i, acriai priotos, previous irispec	tions), ii availabic.					
Remarks:	are cheerwood						
No indicators of wetland hydrology we	ere observed.						

VEGETATION – Use scientific names of plants.

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30')	% Cover			Number of Dominant Species
1. <u>Tilia americana</u>			<u>FACU</u>	That Are OBL, FACW, or FAC: (A)
2. Acer saccharum				Total Number of Dominant
3. <u>Populus tremuloides</u>			<u>FAC</u>	Species Across All Strata: (B)
4. Fraxinus pennsylvanica	5.0	N	<u>FACW</u>	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 40.00 (A/B)
6		-		Prevalence Index worksheet:
7		-		Total % Cover of: Multiply by:
	85.0	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species10 x 2 =20
1. <u>Abies balsamea</u>	40.0	Y	FAC	FAC species <u>65</u> x 3 = <u>195</u>
2				FACU species <u>80</u> x 4 = <u>320</u>
3				UPL species 0 x 5 = 0
4				Column Totals:155 (A)535 (B)
5				Prevalence Index = B/A = 3.45
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:5')	10.0	_ rotal 00	• • • • • • • • • • • • • • • • • • • •	3 - Prevalence Index is ≤3.0¹
1. Carex pedunculata	10.0	Υ	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Acer saccharum</u>	10.0	Y	<u>FACU</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Dryopteris intermedia</u>		N	FAC	1
4. <u>Fraxinus nigra</u>			FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2				
3				I buduan budia
				Hydrophytic Vegetation
4		= Total Co	ver	Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate	sheet.)			
The upland is a mesic forest with a sign	nificant s	shrub la	yer of A	bies balsamea, and numerous
seedlings.				

Sampling Point: wasc051f_u

SOIL Sampling Point: wasc051f_u

			to the dep				or confirm	the absence of indicate	ators.)	
Depth (inches)	Color (r	Matrix noist)	%	Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks	
0-8	10YR	-	100					CL		
8-20	5YR	3/2						CL		
	-									
	-									
-	-		·							
	-									
	-									
1										
Type: C=C Hydric Soil			letion, RM:	=Reduced Matrix, MS	S=Masked	Sand Gr	ains.		re Lining, M=Matrix. Dlematic Hydric Soils³:	
Histosol				Polyvalue Belov	v Surface	(S8) (LR F	RR,		0) (LRR K, L, MLRA 149B)	
	pipedon (A2)		MLRA 149B)		DD D MI	DA 440D)		edox (A16) (LRR K, L, R)	
	istic (A3) en Sulfide (A	4)		Thin Dark Surfa Loamy Mucky N				 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) 		
	d Layers (A		(0.44)	Loamy Gleyed I)				
	d Below Dar ark Surface		e (A11)	Depleted Matrix Redox Dark Sur						
Sandy N	/lucky Miner	al (S1)		Depleted Dark S	Surface (F			Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Bleyed Matri Redox (S5)	x (S4)		Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
	d Matrix (S6))							ark Surface (TF12)	
	rface (S7) (I		/ILRA 149	3)				Other (Explain		
³ Indicators o	f hydrophyti	c vegetat	tion and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.		
Restrictive	Layer (if ob	served):	1							
Type:								Unidaia Cail Dagaant	2 Van Na /	
	ches):							Hydric Soil Present	? Yes No <u>√</u>	
Remarks:	c soil ind	dicator	rs were	observed.						



wasc051f u S



wasc051f_u_W

Project/Site: Line 5 Relocation Project City	y/County: Ashland Sampling Date: 2019-10-03
	State: WI Sampling Point: wase050f_w
	ection, Township, Range: 044N-002W-07
	relief (concave, convex, none): Concave Slope (%): 0-2%
	Long: <u>-90.661848</u> Datum: <u>WGS84</u>
	ercent slopes, very stony NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	
	sturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally proble	
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area
Hydric Soil Present? Yes No	within a Wetland? Yes <u>√</u> No
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.)	
Wet forest system that includes a perennial strea	iiii (Saseu rop).
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
✓ Surface Water (A1) ✓ Water-Stained Lea	- · · · · · · · · · · · · · · · · · · ·
✓ High Water Table (A2) — Aquatic Fauna (B1) — Table (A2) — Aquatic Fauna (B1) — Table (A2) — Aquatic Fauna (B1) — Table (A2) — Ta	
✓ Saturation (A3) Marl Deposits (B15)	
Water Marks (B1) Hydrogen Sulfide (
	neres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduce Algal Mat or Crust (B4) Recent Iron Reduce	ced Iron (C4) Stunted or Stressed Plants (D1) ction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface	
Initial Deposits (B5) Thirt Middle Curriace	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes _ ✓ No Depth (inches): 2	2
Water Table Present? Yes <u>✓</u> No Depth (inches): <u>C</u>)
Saturation Present? Yes ✓ No Depth (inches): <u>C</u>) Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, page 1.5)	previous inspections), if available:
Decorate Necessary Balay (erroam gauge, memoring won, actual prictee, p	providuo inopositorio), il availabio.
Remarks: Feature likely with a saturated hydrologic regime	
l eature likely with a saturated hydrologic regime	·

VEGETATION – Use scientific names of plants.

•				Sampling Point: wase050f_w
Tree Stratum (Plot size:)	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Betula alleghaniensis</u>				Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
2. <u>Tilia americana</u>				Total Number of Dominant
3				Species Across All Strata:
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 80.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	67.5	= Total Co	ver	OBL species5 x 1 =5
Sapling/Shrub Stratum (Plot size:)				FACW species <u>85</u> x 2 = <u>170</u>
1. <u>Fraxinus nigra</u>	25	Y	<u>FACW</u>	FAC species 70 x 3 = 210
2. <u>Abies balsamea</u>	10	Y	FAC	FACU species x 4 =
3				Column Totals: 177.5 (A) 455 (B)
4				
5				Prevalence Index = B/A = 2.56
6			-	Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	35 = Total Cover			
Herb Stratum (Plot size:)				4 - Morphological Adaptations ¹ (Provide supporting
1. <u>Carex bromoides</u>			<u>FACW</u>	data in Remarks or on a separate sheet)
2. <u>Dryopteris intermedia</u>	5	N	<u>FAC</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Equisetum pratense</u>			FACW	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Carex crinita</u>	5	N	OBL	be present, unless disturbed or problematic.
5. <u>Abies balsamea</u>		N	FAC	Definitions of Vegetation Strata:
6. <u>Fraxinus nigra</u>	5	N	FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11			-	
12		-		Woody vines – All woody vines greater than 3.28 ft in height.
		= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2				
3			-	Hydrophytic Vegetation
Λ		= Total Co	-	Present? Yes ✓ No
4			vor	

SOIL Sampling Point: wase050f_w

Profile Des	cription: (Describe t	o the de	oth needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	Matrix				x Features	1	. 2	_		
(inches)	Color (moist) 10YR 4/1	90	Color (n 7.5YR		<u>%</u> 10	Type'	Loc ²	Texture SIL	Prominent redox	
		30					IVI			
5-12	7.5YR 5/1	_/U_	7.5YR		_30_	<u> </u>	_IVI_	CL	Prominent redox	
<u> 12-18</u>	<u>5YR 4/4</u>	_70_	<u>5YR</u>	5/8	_30_	<u>C</u>	_M_	CL	Prominent redox	
12-18 5YR 4/4 70 5YR 5/8 30 C M CL Prominent redox Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. C							n: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B)			
	d Matrix (S6) urface (S7) (LRR R, M	LRA 149	B)					Very Shallow Dark Surface (TF12)Other (Explain in Remarks)		
	of hydrophytic vegetati			ology mus	t be prese	ent. unles:	s disturbed			
	Layer (if observed):				. 50 p. 000	,		or probleman	<u>. </u>	
Туре:										
Depth (in	ches):							Hydric Soi	I Present? Yes No	
Remarks: Depleted	d matrix with re	edox co	oncentra	tions p	oresen	t.				



wase050f_w_N



wase050f_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

Wetland Type(s): PFO - Hardwood Swamp		
There is a dense canopy of Betula		
alleghaniensis and Acer saccharum with Tilia americana along the wetland edge. The		

 SITE MAP

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	Ν	N	Used for educational or scientific purposes
3	Ν	N	Visually or physically accessible to public
4	N	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 14	11	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5			Occurs in a Joint Venture priority township
6	N	N	Interpretation of habitat atrusture (hami march abrub/amargant, watland/unland complex etc.)
0	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Y	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Υ	Υ	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	Ν	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Ν	Υ	Vegetation is inundated in spring
SP		-	Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	Υ	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4		N	Evidence of flashy hydrology
-	N		
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ		.,	Water Quality Protection
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Y	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	Υ	Υ	Vegetated wetland associated with a lake or stream
5	Υ	Y	Dense, persistent vegetation
6	Ν	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Υ	Υ	Discharge to surface water
9	Ν	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3			Wetland remains saturated for an extended time period with no additional water inputs
4	N	N N	
5	N	N	Wetland soils are organic
	N	N	Wetland is within a wellhead protection area

		nments (Refer to Section 1 numbers)									
		supporting standing water but likely does seasonally rough the wetland									
Wi	ildlife Habita	at and Species Observation (including amphibians and reptiles)									
Lis		oservation, tracks, scat, other sign; type of habitat: nesting, migratory,									
Observed	Potential	Species/Habitat/Comments									
	Y	Songbirds, arboreal mammals									
		atic Life Habitat and Species Observations									
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.									
Observed	Potential	Species/Habitat									
	Y	Aquatic invertebrates									

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	inty intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Betula alleghaniensis			PFO	Abundant
Tilia americana			PFO	Common
Fraxinus nigra			PFO	Common
Abies balsamea			PFO	Common
Carex bromoides			PFO	Abundant
Dryopteris intermedia			PFO	Uncommon
Equisetum pratense			PFO	Uncommon
Carex crinita			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The flortisic integrity is moderate with dense vegetation of a limited number of species, primarily sedges, at the herbaceous layer. The tree and shrub strata are dominated by Betula alleghaniensis, Tilia americana, and Fraxinus nigra.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V			N 4	0	Removal of herbaceous stratum – mowing,
X	X	X	M	С	grading, earthworms, etc.
V	V	V	N.4	0	Removal of tree or shrub strata – logging,
X	X	X	M	С	unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Χ		L	С	Removal of large woody debris
	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The feature, as well as the margins, show earthworm activity, and are impacted by historic logging.	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE						
	Low	Medium	High	Exceptional	NA		
Floristic Integrity	√						
Human Use Values	√						
Wildlife Habitat		✓					
Fish and Aquatic Life Habitat	√						
Shoreline Protection		✓					
Flood and Stormwater Storage		✓					
Water Quality Protection		✓					
Groundwater Processes	√						

FUNCTION	RATIONALE
Floristic Integrity	Moderate diversity across three strata
Human Use Values	Feature is not visible to the public and is likely not accessible or used for research or recreation
Wildlife Habitat	Herbaceous vegetation is dense with limited species diversity, tree cover may provide some habitat for songbirds and arboreal mammals, associated stream provides some habitat for aquatic species
Fish and Aquatic Life Habitat	Feature likely supports standing water only seasonally
Shoreline Protection	Associated with a perennial stream
Flood and Stormwater Storage	Area receives small quantities of runoff, is densely vegetated, but is not within an impactful area with respect to flood and stormwater storage
Water Quality Protection	Feature is densely vegetated and associated with a perennial waterbody
Groundwater Processes	Feature is seasonally saturated and is fed primarily by precipitation and runoff

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	ct City/C	County: Ashland	S	ampling Date: <u>2019-10-03</u>	
-				Sampling Point: wase050_u	
Investigator(s): NTT/ARK/MAL	Section	on, Township, Range: 04	4N-002W-07		
Landform (hillslope, terrace, etc.): Talf					
Subregion (LRR or MLRA): Northcentral Fores					
Soil Map Unit Name: Tula-Wormet-Gogebi					
Are climatic / hydrologic conditions on the site type		•			
Are Vegetation, Soil, or Hydrolog					
Are Vegetation, Soil, or Hydrolog					
SUMMARY OF FINDINGS – Attach s	ite map showing sam	npling point location	ıs, transects, ii	mportant features, etc.	
Hydrophytic Vegetation Present? Yes _	✓ No	Is the Sampled Area			
	✓ No	within a Wetland?	Yes	No <u>√</u>	
	No <u></u>	If yes, optional Wetland S	Site ID:		
Remarks: (Explain alternative procedures here The upland point recorded within		asswood forest			
The upland point recorded within	i a sugai mapie-ba	355W000 10165t.			
HYDROLOGY					
Wetland Hydrology Indicators:		<u> </u>	Secondary Indicator	rs (minimum of two required)	
Primary Indicators (minimum of one is required	check all that apply)		Surface Soil Cra	acks (B6)	
Surface Water (A1)	Water-Stained Leave	es (B9)	Drainage Patter	rns (B10)	
High Water Table (A2)	Aquatic Fauna (B13)	_	Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)	_	Dry-Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Od		Crayfish Burrow		
Sediment Deposits (B2)	Oxidized Rhizospher	-		ole on Aerial Imagery (C9)	
Drift Deposits (B3)	Presence of Reduced	. ,		ssed Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reductio				
Iron Deposits (B5)	Thin Muck Surface (C		Shallow Aquitard (D3) Microtopographic Relief (D4)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Rer	narks) _	Microtopograph FAC-Neutral Te		
Sparsely Vegetated Concave Surface (B8) Field Observations:			FAC-Neutral Te	(D5)	
	✓ Depth (inches):				
	✓ Depth (inches):				
	✓ Depth (inches):		drology Present?	Yes No √	
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitor	oring well, aerial photos, pre	evious inspections), if availa	able:		
Remarks:					
No wetland hydrology indicators	were observed.				

VEGETATION – Use scientific names of plants.

Species? Y N Total Co	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
N Total Cc	FACU FACU FAC FAC	That Are OBL, FACW, or FAC: 2 (A) Total Number of Dominant Species Across All Strata: 3 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B) Prevalence Index worksheet:
Total Co	over FAC	Total Number of Dominant Species Across All Strata: 3 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B) Prevalence Index worksheet: Multiply by: 0 OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 35 x 3 = 105 FACU species 62 x 4 = 248 UPL species 0 x 5 = 0 Column Totals: 97 (A) 353 (B) Prevalence Index = B/A = 3.64
Total Co	over FAC	Species Across All Strata: 3 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 35 x 3 = 105 FACU species 62 x 4 = 248 UPL species 0 x 5 = 0 Column Totals: 97 (A) 353 (B) Prevalence Index = B/A = 3.64
Total Co	FAC	That Are OBL, FACW, or FAC:
Total Co	FAC	That Are OBL, FACW, or FAC:
Total Co	FAC	Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 35 x 3 = 105 FACU species 62 x 4 = 248 UPL species 0 x 5 = 0 Column Totals: 97 (A) 353 (B) Prevalence Index = B/A = 3.64
Total Co	FAC	Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 35 x 3 = 105 FACU species 62 x 4 = 248 UPL species 0 x 5 = 0 Column Totals: 97 (A) 353 (B) Prevalence Index = B/A = 3.64
Y	FAC	OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 35 x 3 = 105 FACU species 62 x 4 = 248 UPL species 0 x 5 = 0 Column Totals: 97 (A) 353 (B) Prevalence Index = B/A = 3.64
Y	FAC	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
		FACU species 62 $x 4 = 248$ UPL species 0 $x 5 = 0$ Column Totals: 97 (A) 353 (B) Prevalence Index = B/A = 3.64
		UPL species $0 \times 5 = 0$ Column Totals: $97 \times 5 = 3.64$ Prevalence Index = B/A = 3.64
		Column Totals:97
	 	Prevalence Index = B/A =3.64
		1 - Rapid Test for Hydrophytic Vegetation
Total Co		∠ 2 - Dominance Test is >50%
	ovei	3 - Prevalence Index is ≤3.0¹
Υ	_FAC_	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
		Problematic Hydrophytic Vegetation ¹ (Explain)
		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		Definitions of Vegetation Strata:
		Tree – Woody plants 3 in. (7.6 cm) or more in diameter
		at breast height (DBH), regardless of height.
		Sapling/shrub – Woody plants less than 3 in. DBH
		and greater than or equal to 3.28 ft (1 m) tall.
		Herb – All herbaceous (non-woody) plants, regardless
		of size, and woody plants less than 3.28 ft tall.
		Woody vines – All woody vines greater than 3.28 ft in
Total Co	over	height.
		Hydrophytic
		Vegetation Present? Yes No
Total Co	over	100 <u></u>
	N Total Co	N FACU

SOIL Sampling Point: wase050_u

Profile Desc	cription: (D	escribe t	o the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	-	Matrix	0/	Calar /r		K Features		1 2	Ta	Domonto	
(inches)	Color (r		4.00	Color (r	noist)	<u>%</u>	Type ¹	Loc ²	Texture	<u>Remarks</u>	
0-5	10YR	2/2	100						SCL	·	
5-9	<u>10YR</u>	5/2	<u>100</u>						SCL		
9-20	<u>7.5YR</u>	4/2	_85_	5YR	3/4	<u>15</u>	<u> </u>	_M_	_SC_	Distinct redox	
				-							
							-		-		
¹ Type: C=C	oncentration	, D=Depl	etion, RM=	Reduced N	Matrix, MS	=Masked	Sand Gra	ains.		n: PL=Pore Lining, M=Matrix.	
Hydric Soil										s for Problematic Hydric Soils ³ :	
Histosol	(A1) pipedon (A2	١			alue Belov RA 149B)	v Surface	(S8) (LRI	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)		
l — ·	istic (A3))			,	ce (S9) (L	RR R, MI	LRA 149B)	. , , , , , , , , , , , , , , , , , , ,		
	en Sulfide (A			Loamy Mucky Mineral (F1) (LRR K, L)					Dark Surface (S7) (LRR K, L)		
	d Layers (A5 d Below Dar	•	. (/ Gleyed Natrix		2)		Polyvalue Below Surface (S8) (LRR K, L)		
-	ark Surface		; (A11)		Dark Sur				Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)		
	lucky Miner	. ,			ted Dark S				Piedmont Floodplain Soils (F19) (MLRA 149B)		
-	Eleyed Matri	x (S4)		Redox	Depressi	ons (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
-	Redox (S5) I Matrix (S6)								Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	rface (S7) (I		LRA 149E	3)					Other (Explain in Remarks)		
Indicators o			on and we	etland hydro	ology mus	t be prese	ent, unless	s disturbed	or problemati	C.	
Type:	Layer (II Ob	sei veuj.									
	ches):								Hydric Soi	I Present? Yes/ No	
Remarks:	Ci ies)								,		
	ts hydrid	indica	ator F3	; howe	er, ve	getatio	n and	landsca	ape positi	on not indicative of a	
wetland.	-			•	,	5					



wase050_u_E



wase050_u_SE

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-03	
Applicant/Owner: Enbridge		State: WI	Sampling Point: wase049f_w	
Investigator(s): NTT/ARK/MAL				
	Local relief (concave, convex, none): Concave Slope (%): 0-2%			
Subregion (LRR or MLRA): Northcentral Forests Lat:				
Soil Map Unit Name: Tula-Wormet-Gogebic com				
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes !	No (If no, explain in R	emarks.)	
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	oresent? Yes ✓ No	
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes <u>✓</u>	No Is the Sam			
	NO	/etland? Yes <u>√</u>	No	
		onal Wetland Site ID:		
Remarks: (Explain alternative procedures here or in a Wet forest within a slight depression		hardwoods		
Wet lotest within a slight depression	Surrounded by mesic i	narawoods.		
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)	
Primary Indicators (minimum of one is required; check		Surface Soil		
	Water-Stained Leaves (B9)	Drainage Pa		
	Aquatic Fauna (B13)	Moss Trim Li		
	Marl Deposits (B15)	· · · · · · · · · · · · · · · · · · ·	Water Table (C2)	
	Hydrogen Sulfide Odor (C1)	Crayfish Burn		
	Oxidized Rhizospheres on Living		sible on Aerial Imagery (C9)	
	Presence of Reduced Iron (C4)		tressed Plants (D1)	
	Recent Iron Reduction in Tilled So			
	Thin Muck Surface (C7)	Shallow Aqui		
	Other (Explain in Remarks)	Microtopogra		
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D3)	
	Depth (inches):			
	Depth (inches):			
	Depth (inches):	Wetland Hydrology Preser	it? Yes <u>√</u> No	
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring we	ell, aerial photos, previous inspec	tions), if available:		
Remarks:				
Feature likely with a saturated hydrol	logic regime.			

VEGETATION – Use scientific names of plants.

Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:
That Are OBL, FACW, or FAC:
Total Number of Dominant Species Across All Strata: 8 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 10 x1 = 10 FACW species 60 x2 = 120 FAC species 25 x3 = 75 FACU species 0 x4 = 0 UPL species 0 x5 = 0 Column Totals: 95 (A) 205 (B) Prevalence Index = B/A = 2.16 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
Species Across All Strata: 8 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B) Prevalence Index worksheet:
Percent of Dominant Species That Are OBL, FACW, or FAC:
That Are OBL, FACW, or FAC:
Total % Cover of: Multiply by: OBL species 10 x1 = 10 FACW species 60 x2 = 120 FAC species 25 x3 = 75 FACU species 0 x4 = 0 UPL species 0 x5 = 0 Column Totals: 95 (A) 205 (B) Prevalence Index = B/A = 2.16 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
Total % Cover of: Multiply by: OBL species 10 x1 = 10 FACW species 60 x2 = 120 FAC species 25 x3 = 75 FACU species 0 x4 = 0 UPL species 0 x5 = 0 Column Totals: 95 (A) 205 (B) Prevalence Index = B/A = 2.16 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
OBL species
FACW species 60 x 2 = 120 FAC species 25 x 3 = 75 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 95 (A) 205 (B) Prevalence Index = B/A = 2.16 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 95 (A) 205 (B) Prevalence Index = B/A = 2.16 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 95 (A) 205 (B) Prevalence Index = B/A = 2.16 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
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Prevalence Index = B/A =
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2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
Problematic Hydrophytic Vegetation¹ (Explain)
SW
Indicators of hydric soil and watland hydrology must
i muicators of riyund soli and wetiand nydrology must
be present, unless disturbed or problematic.
W Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter
at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH
and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless
of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in
height.
Hydrophytic
Vegetation
— Present? Yes <u>√</u> No

SOIL Sampling Point: wase049f_w

Profile Description: (Describe to the de	epth needed to docum	nent the ind	icator or con	firm the absenc	e of indicators.)		
Depth Matrix		x Features	- 1 .	-			
(inches) Color (moist) % 0-6 7.5YR 3/3 90	Color (moist) 7.5YR 5/6		Гуре ¹ Loc С М	Texture	Remarks		
6-12 5YR 3/3 90	7.5YR 5/6	10	C M		-		
12-18 5YR 4/3 85		15	<u>С</u> и		·		
<u> 12-18 </u>	<u> 7.511\ 5/0</u>				-		
					·		
, , - -							
,							
,	<u> </u>				·		
· · 					- <u> </u>		
,							
¹ Type: C=Concentration, D=Depletion, R	M=Reduced Matrix, MS	S=Masked Sa	and Grains.		n: PL=Pore Lining, M=Matrix.		
Hydric Soil Indicators:	Dobarduo Dolov	v Curtoss (C	0) / I DD D		s for Problematic Hydric Soils ³ :		
Histosol (A1) Histic Epipedon (A2)	Polyvalue Below MLRA 149B)		o) (LKK K,		Muck (A10) (LRR K, L, MLRA 149B) t Prairie Redox (A16) (LRR K, L, R)		
Black Histic (A3)	Thin Dark Surface				Mucky Peat or Peat (S3) (LRR K, L, R)		
			LKK K, L)				
Depleted Below Dark Surface (A11)	Depleted Matrix	(F3)		Thin	Dark Surface (S9) (LRR K, L)		
Sandy Gleyed Matrix (S4)	Redox Depressi			Mesic	Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
					✓ Red Parent Material (F21) Very Shallow Dark Surface (TF12) Very S		
Dark Surface (S7) (LRR R, MLRA 14	9B)				Other (Explain in Remarks)		
³ Indicators of hydrophytic vegetation and	wetland hydrology must	t be present,	unless distur	bed or problemat	ic.		
, ,							
• •				Hydric So	il Present? Yes No		
Remarks:							
Redox concentrations prese	nt throughout th	ne matrix	ζ.				
Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 14) *Indicators of hydrophytic vegetation and Restrictive Layer (if observed): Type: Depth (inches): Remarks:	Thin Dark Surface Loamy Mucky Modely Modely Modely Loamy Gleyed Modely Depleted Matrix Redox Dark Sur Depleted Dark Some Redox Depressi PB) Wetland hydrology must	ce (S9) (LRi fineral (F1) (Matrix (F2) (F3) face (F6) Surface (F7) fons (F8)	LRR K, L)	19B) 5 cm Dark Polyv Thin Iron-I Piedr Mesic Red I Very Other	Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) ralue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) mont Floodplain Soils (F19) (MLRA 149B) C Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) Shallow Dark Surface (TF12) r (Explain in Remarks) ic.		



wase049f_w_N



wase049f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/ARK		
File #: wase049	Date of visit(s): 10/03/2019		
Location: PLSS: <u>044N-002W-07</u>	Ecological Landsca North Central Forest	ape:	
Lat: <u>46.308175</u> Long: <u>-90.660478</u>	Watershed: LS14, Upper Bad River		
County: Ashland Town/City/Village: Morse town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
5171B Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony	Wetland Type(s): PFO - Hardwood Swamp		
Field Verified:		2 · · · · · · · · · · · · · · · · · · ·	
Series not verified. Soils were clay loam above clay.	Wetland Size: 0.10	Wetland Area Impacted 0.10	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The feature is a seasonally saturated basin. There is no standing water or saturation present at the time of survey.	The herbaceous layer is relatively sparse with cover of Carex crinita and Dryopteris intermedia. The canopy is dominated by Fraxinus nigra. There is a sparse shrub stratum present containing Acer rubrum.		

SITE MAP		

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	Ν	Used for educational or scientific purposes
3	Z	N	Visually or physically accessible to public
4	Ν	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 1 1		In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4			100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	Y	Occurs in a Joint Venture priority township
	N	N	
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present <u>> 45 days</u>
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	Ν	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	11/7	19/3	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	INA	INA	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2			Water flow through wetland is NOT channelized
3	Y	Y	Š
H + + + + + + + + + + + + + + + + + + +	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	Y	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	Ν	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	N	N N	Wetland soils are organic Wetland is within a wellhead protection area
5	Ν		

Section 1 Comments (Refer to Section 1 numbers)							
WH-7: feature provid	WH-7: feature provides songbird habitat WH-10, FA-2, 4: not currently supporting standing water but likely does seasonally						
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)					
Lis	st: direct of	pservation, tracks, scat, other sign; type of habitat: nesting, migratory,					
wi	nter, etc.						
Observed	Potential	Species/Habitat/Comments					
	Y	Songbirds, mammals, amphibians, insects					
_							
E:	. l	stic Life Helvitet and Cuesias Observations					
		atic Life Habitat and Species Observations oservation, spawning, nursery areas, etc.					
	or anoor or	ost valien, ether eigh, type of habitati hosting, epatrining, hardery areas, etc.					
Observed	Potential	Species/Habitat					
	Υ	Aquatic invertebrates					
I.	1						

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

Tient Community intogrity (on old)						
	Low	Medium	High	Exceptional		
Invasive species cover	> 50%	20-50%	10-20%	<10%		
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented		
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)		
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare		
FQI (optional)	<13	13-23	23-32	>32		
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7		

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Betula alleghaniensis			PFO	Common
Acer rubrum			PFO	Uncommon
Carex crinita			PFO	Uncommon
Dryopteris intermedia			PFO	Uncommon
Carex intumescens			PFO	Uncommon
Glyceria striata			PFO	Uncommon
Abies balsamea			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The flortisic integrity is moderate with a limited number of species at the herbaceous layer. The tree and shrub strata are dominated by Fraxinus nigra and Acer rubrum, respectively.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
71100 (7171)			20101	Troquonoy	Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
V	V	V	N.4		Removal of tree or shrub strata – logging,
Х	X	X	M	С	unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

orridor present to the northeast of the feature within the buffer area.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Moderate diversity across three strata
Human Use Values	Not visible to the public and is likely not accessible or used for research or recreation
Wildlife Habitat	Limited species diversity and provides habitat for songbirds, mammals, amphibians, and potentially insect pollinators
Fish and Aquatic Life Habitat	Feature likely supports standing water only seasonally
Shoreline Protection	N/A
Flood and Stormwater Storage	Area receives small quantities of runoff, not within an impactful area with respect to flood and stormwater storage
Water Quality Protection	Not directly associated with a stream or river
Groundwater Processes	Seasonally saturated and fed primarily by precipitation and runoff

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	ct City/County:	Ashland	Sampling Date: 2019-10-03
•			Sampling Point: wase049_u
Investigator(s): NTT/ARK/MAL			
Landform (hillslope, terrace, etc.): Talf		· -	
Subregion (LRR or MLRA): Northcentral Fores			
Soil Map Unit Name: Tula-Wormet-Gogeb			
Are climatic / hydrologic conditions on the site ty	·		
Are Vegetation, Soil, or Hydrolog			
Are Vegetation, Soil, or Hydrolog			
SUMMARY OF FINDINGS – Attach s	ite map showing sampling	point locations, transect	ts, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the	Sampled Area	
		a Wetland? Yes	No <u></u>
		optional Wetland Site ID:	_
Remarks: (Explain alternative procedures here		root	
The upland point is located with	in a mesic nardwood fol	est.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)
Primary Indicators (minimum of one is required			
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage F	
High Water Table (A2)	Aquatic Fauna (B13)		Lines (B16)
Saturation (A3)	Marl Deposits (B15)	-	n Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		urrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Li	= ' '	Visible on Aerial Imagery (C9)
Drift Deposits (B3) Algal Mat or Crust (B4)	Presence of Reduced Iron (CRecent Iron Reduction in Till		Stressed Plants (D1) ic Position (D2)
Algal Mat of Crust (B4) Iron Deposits (B5)	Thin Muck Surface (C7)	ed Solis (Co) Shallow Ac	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		graphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		· -	ral Test (D5)
Field Observations:			a. 1001 (20)
Surface Water Present? Yes No	Depth (inches):		
	✓ Depth (inches):		
	Depth (inches):	Wetland Hydrology Pres	ent? Yes No <u>√</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monit	oring well perial photos, previous in	sepactions) if available:	
Describe Necorded Data (Stream gauge, month	oning well, aerial priotos, previous li	spections), ii available.	
Remarks:	ware cheerwood		
No wetland hydrology indicators	were observed.		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Acer saccharum				Number of Dominant Species
		· · · · · · · · · · · · · · · · · · ·		That Are OBL, FACW, or FAC:4 (A)
2				Total Number of Dominant Species Across All Strata: 9 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 44.44 (A/B)
6				
				Prevalence Index worksheet:
7		= Total Cov		
Sapling/Shrub Stratum (Plot size: 15')	02.0	= Total Cov	/ei	FACW species
1. Abies balsamea	10	V	FΔC	FAC species 27 x 3 = 81
2. Acer saccharum			FACU	FACU species100 x 4 =400
3. Quercus rubra				UPL species0 x 5 =0
				Column Totals: <u>127</u> (A) <u>481</u> (B)
4				Prevalence Index = B/A = 3.79
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
T		= Total Cov		2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		= Total Cov	/ei	3 - Prevalence Index is ≤3.0¹
1. Mitchella repens	17.5	Υ	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Dryopteris intermedia			FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Carex pedunculata			FAC	
4. Acer saccharum	_	Y	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Osmunda claytoniana		Y	FAC	
6. Athyrium angustum				Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Cov	/er	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4.				Vegetation
		= Total Cov	/er	Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate Canopy dominated by sugar maple with	^{sheet.)} h balsan	n fir in th	ne shrul	o layer. Braun-Blanquet scale used.

Sampling Point: wase049_u

SOIL Sampling Point: wase049_u

Profile Desc	ription: (I	Describe t	o the dep	th needed to docun	nent the i	indicator	or confirm	n the absence of indicators.)
Depth	0-1	Matrix	0/		x Feature		12	Today
(inches)	Color (2.5/2	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture Remarks SIL
2-8	5YR	4/6	100			·		SIL
8-20		3/4				·		SIL
0-20	<u> </u>	<u> </u>	100					_ OIL
	-				-			
					-	. ——		
						. ———		
	-							
			etion, RM:	=Reduced Matrix, MS	S=Masked	d Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil		:		5.1.5.1	0 ((Oo) // DE		Indicators for Problematic Hydric Soils ³ :
Histosol Histic Ep	(A1) pipedon (A2	2)		Polyvalue Belov MLRA 149B)		(58) (LRF	κк,	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)
Black Hi	stic (A3)			Thin Dark Surfa				5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (. d Layers (A			Loamy Mucky N Loamy Gleyed I			, L)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)
Depleted	d Below Da	rk Surface	e (A11)	Depleted Matrix	(F3)			Thin Dark Surface (S9) (LRR K, L)
	ark Surface Iucky Mine			Redox Dark Sul Depleted Dark S				<pre> Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B</pre>
	Bleyed Mat			Redox Depress		7)		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
	tedox (S5)	.,						Red Parent Material (F21)
	Matrix (S6 rface (S7)		LRA 1491	3)				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Indicators of Restrictive			on and we	etland hydrology mus	t be prese	ent, unless	disturbed	l or problematic.
Type:	Layer (ii o	ooci veaj.						
	ches):							Hydric Soil Present? Yes No✓
Remarks:								
No hydri	c soil in	dicator	s were	observed.				



wase049_u_E



wase049_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: A	shland	_ Sampling Date: 2019-10-03
•			Sampling Point: wase048e_w
Investigator(s): NTT/ARK/MAL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests I			
Soil Map Unit Name: Gogebic, very stony-Pence,			
Are climatic / hydrologic conditions on the site typical			
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site	map showing sampling p	oint locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes	110	mpled Area	
	<u> </u>	Wetland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes		tional Wetland Site ID:	
Remarks: (Explain alternative procedures here or Wet meadow dominated by Canad	in a separate report.) da blueioint and located	within an existing ut	ility right-of-way
vet meadow dominated by Garlace	da bidejoint and located	within an existing at	inty right of way.
HYDROLOGY			
Wetland Hydrology Indicators:		· · · · · · · · · · · · · · · · · · ·	cators (minimum of two required)
Primary Indicators (minimum of one is required; ch			
	Water-Stained Leaves (B9)	Drainage P	
	Aquatic Fauna (B13)	Moss Trim I	
	Marl Deposits (B15) Hydrogen Sulfide Odor (C1)		Water Table (C2)
	Oxidized Rhizospheres on Living	Crayfish Bu g Roots (C3) Saturation \	Visible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		Stressed Plants (D1)
1 	Recent Iron Reduction in Tilled		
	Thin Muck Surface (C7)	Shallow Aq	
	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	Cirior (Explain in Normanio)	Milorotopogii	, ,
Field Observations:		<u> </u>	
Surface Water Present? Yes No	/ Depth (inches):	_	
	/ Depth (inches):		
Saturation Present? Yes No	/ Depth (inches):		ent? Yes <u>√</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitorir	na well perial photos previous insp	ections) if available:	
Describe Necolded Data (Stream gauge, monitorii	ig weii, aeriai priotos, previous irisp	schons), ii avaliable.	
Remarks:			
Feature likely has a saturated hyd	irologic regime.		
The state of the s			J.

VEGETATION – Use scientific names of plants.

Tree Christian (Diet einer 201	Absolute			Dominance Test worksheet:
Tree Stratum (Plot size:30')		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:1 (A)
2				Total Number of Dominant Species Across All Strata: 1 (B)
3				Species Across All Strata: (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5			-	That Are OBL, FACW, or FAC: 100.00 (A/B)
6	_			Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0.0	= Total Co	ver	OBL species <u>65</u> x 1 = <u>65</u>
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1.	_			FAC species0 x 3 =0
2		-		FACU species x 4 =0
3				UPL species 0 x 5 = 0
4.				Column Totals:65 (A)65 (B)
5				Prevalence Index = B/A =1.00
6				Hydrophytic Vegetation Indicators:
7				✓ 1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		∠ 2 - Dominance Test is >50%
Harb Christian (Distriction 5)	0.0	= 10(a) Co	vei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') 1. Calamagrostis canadensis	50	Υ	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Scirpus cyperinus		N	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Persicaria sagittata			OBL	
				¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10			-	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11	<u> </u>			
12		-		Woody vines – All woody vines greater than 3.28 ft in height.
	65	= Total Co	ver	noight.
Woody Vine Stratum (Plot size:)				
1		-		
2.	_			
3		-		Hydrophytic
4				Vegetation
		= Total Co	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate Part of a larger wetland complex with the scale used.		on domi	nated b	y Canada bluejoint. Braun-Blanquet

Sampling Point: wase048e_w

SOIL Sampling Point: wase048e_w

Profile Desc	ription: (Describe t	o the depth n	eeded to docum	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix		Redox	K Features	3			
(inches)	Color (moist)		Color (moist)		Type ¹	Loc ²	Texture	Remarks
1T C. C.	acceptantian D Double		dues d Matrice MC		Cond Co		21 1	Di Dara Linina M Matrix
Hydric Soil I Histosol Histic Ep Black His Hydroger Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Sur	(A1) ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) Below Dark Surface rk Surface (A12) ucky Mineral (S1) leyed Matrix (S4) edox (S5) Matrix (S6) face (S7) (LRR R, M	(A11) —————————————————————————————————	Polyvalue Below MLRA 149B) Thin Dark Surfa Loamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Sur Depleted Dark S Redox Depressi	v Surface ce (S9) (L lineral (F1 Matrix (F2) (F3) face (F6) Surface (F ons (F8)	(S8) (LRF .RR R, MI) (LRR K)	RR, RA 149B) L)	Indicators of 2 cm M 2 cm M Coast F 5 cm M Dark St Polyval Thin Da Iron-Ma Piedmo Mesic S Red Pa Very Sh Other (I	PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ : luck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) lucky Peat or Peat (S3) (LRR K, L, R) urface (S7) (LRR K, L) ue Below Surface (S8) (LRR K, L) ark Surface (S9) (LRR K, L) anganese Masses (F12) (LRR K, L, R) ont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) arent Material (F21) hallow Dark Surface (TF12) Explain in Remarks)
Type:	hes):		-				Hydric Soil	Present? Yes <u>√</u> No
Remarks: Soils wer		I due to th	ne proximity					ils are assumed to be



wase048e_w_E



wase048e_w_NW

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-10-03
· · · · · · · · · · · · · · · · · · ·	State: WI Sampling Point: wase048f_w
_	Section, Township, Range: 044N-002W-07
	ral relief (concave, convex, none): Concave Slope (%): 0-2%
	Long: <u>-90.660694</u> Datum: <u>WGS84</u>
	percent slopes, very stony NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year	
	disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally pro	
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes ✓ No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate repor	
Wet forest community dominated by deciduous	species.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained L	· · · · · · · · · · · · · · · · · · ·
High Water Table (A2) Aquatic Fauna (
✓ Saturation (A3) Marl Deposits (B	
Water Marks (B1) Hydrogen Sulfic	
Sediment Deposits (B2) Oxidized Rhizos Presence of Re	spheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) duced Iron (C4) Stunted or Stressed Plants (D1)
<u> </u>	duction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surfa	
Inundation Visible on Aerial Imagery (B7) Other (Explain i	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ Depth (inches)	:
Water Table Present? Yes No✓ Depth (inches)	:
Saturation Present? Yes _ ✓ No Depth (inches)	: 0 Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo:	s. previous inspections), if available:
g,g	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Remarks: Feature with saturation throughout most of the	arowing season
Todado war odadada modgiloda mod or mo	growing codeon.

VEGETATION – Use scientific names of plants.

				Sampling Point: <u>wase048f_w</u>
Tree Stratum (Plot size:)	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
Betula alleghaniensis				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Fraxinus nigra				
3. Acer rubrum				Total Number of Dominant Species Across All Strata:10 (B)
4				、,
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 90.00 (A/B)
6				Prevalence Index worksheet:
7	60			Total % Cover of: Multiply by:
Carling/Charle Charters / Diet sings 15'	00	= 10(a) CC	ivei	OBL species5 x 1 =5 FACW species50 x 2 =100
Sapling/Shrub Stratum (Plot size: 15')	4.5	V	EA (C) A /	FAC species
1. <u>Fraxinus nigra</u>				FACU species5 x 4 =20
2				UPL species0 x 5 =0
3				Column Totals: <u>110</u> (A) <u>275</u> (B)
4		-		Dravalance Index D/A 2.50
5				Prevalence Index = B/A =2.50
6			-	Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	15	= Total Co	ver	
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations (Provide supporting
1. <u>Equisetum pratense</u>	5	Y	<u>FACW</u>	data in Remarks or on a separate sheet)
2. <u>Dryopteris intermedia</u>	5	Y	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Carex crinita</u>	5	Y	OBL	1
4. Abies balsamea			FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Mitchella repens</u>	5	Y	FACU	Definitions of Vegetation Strata:
6. <u>Rubus pubescens</u>		Y	FACW	
7. <u>Carex pedunculata</u>				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Co		height.
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Woody Vine Stratum (Plot size:)				
Woody Vine Stratum (Plot size:30') 1	_			
Woody Vine Stratum (Plot size:30') 1 2	·			
<u>Woody Vine Stratum</u> (Plot size:) 1 2 3				Hydrophytic Vegetation
Woody Vine Stratum (Plot size:30') 1 2				Hydrophytic Vegetation Present? Yes _ ✓ No

SOIL Sampling Point: wase048f_w

Profile Desc	cription: (Describe	to the dep	oth needed	to docur	nent the ir	ndicator	or confirm	the absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (n		x Features %	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 2/1	100		10101)	70	Турс		MP	Komano
8-20	10YR 4/1		7 5VD	5/9	15		N /		Prominent redox
0-20	101K 4/1	_00	1.51K	5/6	_13_		IVI	SICL	Prominent redox
					· 		-		
					·				
		-			· 				
¹ Type: C=C	oncentration, D=Depl	etion. RM	=Reduced N	/latrix. MS	S=Masked	Sand Gra	ains.	² Location	n: PL=Pore Lining, M=Matrix.
Hydric Soil		,		,					for Problematic Hydric Soils ³ :
Histosol	, ,				v Surface ((S8) (LR	RR,		Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)			RA 149B) ark Surfa		RR R, MI	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)		Loamy	Mucky N	/lineral (F1	(LRR K		Dark S	Surface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	Δ11)		[,] Gleyed I ed Matrix	Matrix (F2)			-	alue Below Surface (S8) (LRR K, L) Park Surface (S9) (LRR K, L)
	ark Surface (A12)	<i>(</i> A11)			rface (F6)				langanese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)				Surface (F	7)			ont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B) arent Material (F21)
	Matrix (S6)								Shallow Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R, M	ILRA 149	B)					Other	(Explain in Remarks)
³ Indicators o	f hydrophytic vegetat	ion and w	etland hydro	logy mus	t be prese	nt, unless	s disturbed	or problemation	c.
	Layer (if observed):				<u> </u>				
Type:									
Depth (in	ches):							Hydric Soil	Present? Yes No
Remarks:	d matrix with re	odov co	ncontra	tion h	alow da	ark mu	cky noo	1	
Dehlerec	illatiix witii le	SUUX CC	JIIC C IIII a	lion b	SIOW UZ	iik iiiu	cky pea	ιι.	



wase048f_w_E



wase048f_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/ARK		
File #: wase048	Date of visit(s): 10/03/2019		
Location: PLSS: 044N-002W-07	Ecological Landsca North Central Forest	pe:	
Lat: <u>46.307223</u> Long: <u>-90.66053</u> County: <u>Ashland</u> Town/City/Village: <u>Morse town</u>	Watershed: LS14, Upper Bad River		
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
5172C, 5171B, Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes, Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony	Wetland Type(s): PFO - Hardwood Swamp, PEM - Fresh Wet Meadow		
Field Verified:		• *	
Series not verified. Within the forested component, soils were mucky peat above silty clay loam. Soils were not sampled within the emergent component due to the potential for buried utilities. Soils are assumed to be	Wetland Size: 0.64	Wetland Area Impacted 0.64	
hydric based on landscape position and vegetative cover.	Vegetation: Plant Community D	escription(s):	
Hydrology: The feature is a small saturated depression with scattered pockets of standing water throughout with signs of prolonged inundation.	The herbaceous layer relatively sparse with cover of Carex crinita and Dryopteris intermedia. The tree cover is composed of Betula alleghaniensis, Fraxinus nigra, and Acer rubrum. There is a sparse shrub stratum present containing Fraxinus nigra and Abies balsamea. The emergent portion of the complex is dominated by disturbance-tolerant species, including Calamagrostis canadensis.		

SITE MAP		

SECTION 1: Functional Value Assessment

1 N N Used for recreation (funting, birding, hiking, etc.). List: 2 N N Used for educational or scientific purposes 3 N N Visually or physically accessible to public 4 Y Y Y Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N I or adjacent to RED FLAG areas List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Will Will will relabitat 1 N N Wetland and configuous habitat 510 acres 2 Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer - natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hem-marsh, shrub/emergent, wetland/upland complex,etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Vetland is connected or contiquous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N N Natural Heritage inventory (NHI) islated aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring 5 Shoreline Protection 1 N N N Along shoreline of a stream, lake, pond or open water area (≤1 acre) - if no, not applicable 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage inventory (NHI) islated aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring 5 Shoreline Protection 1 N N Potrovides usual habitat for amphibians and apuatic invertebrates 3 N N N Natural Heritage inventory (NHI) islated aquatic			ECTION 1:	Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N N V Visually or physically accessible to public 4 Y Y A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N In or adjacent to RED FLAG areas 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Wildlife Habitat 1 N N Weltland and contiguous habitat >10 acres 2 Y Y 3 or more strata present (>10% coven) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer − natural land cover >50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, weltland/upland complex,etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudiflats present 12 N N Portides habitat scarce in the area (urban, agricultural, etc.) FFA FA Fish and Aquatic Life Habitat 1 N N Vedetand is considered for contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage inventor (yIRH) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring 5 SP Shortline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≤1 acre) - if no, not applicable 2 Y Y Vegetation is inundated in spring 3 NA NA Densely rooted emergent or woody vegetation 4 N N Potential for encosin due to wind forth, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 4 N N Potential to hods 2 violated to stream 5 N N Potential to hods 2 violated by N Potential to hods 2 violated by N Potential to	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
3	2	N	N	Used for educational or scientific purposes
4	3	N	N	
In or adjacent to RED FLAG areas List:	4			
S				
File	5	N	N	
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	N	N	
Wildlife Habitat N N Wetland and contiguous habitat > 10 acres		IN	IN	
1 N N Wetland and contiguous habitat >10 acres 2 Y Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer – natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 Y Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudifats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or take 1 N N Wetland is connected or contiguous with perennial stream or take 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring SP Shoreline Protection 1 NA A Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 NA NA PA Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event 4 N Y Provides substantial storage of storm and floodwater based on previous section 5 Y Y Point or non-point source inflow 6 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm				
2	-	N.I.	N.I.	
3				
4				
6 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudilats present 12 N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N				
For the content of				
7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y V Segetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable potential soils and provides and provides soils,				
Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable	6	Y	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
Part of a large habitat block that supports area sensitive species	7			
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Section 1 Comments (Refer to Section 1 numbers) WH-7: feature provides songbird habitat WH-9, WQ-4, 8: currently supports standing water but is not a continuous pond GW-1: some seepage present GW-4: layer of mucky peat present within the forested component WH-6: wetland is part of a complex including forested and emergent components Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Amphibians, arboreal species Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	inity intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Calamagrostis canadensis			PEM	Abundant
Scirpus cyperinus			PEM	Common
Persicaria sagittata			PEM	Uncommon
Betula alleghaniensis			PFO	Common
Fraxinus nigra			PFO	Common
Acer rubrum			PFO	Common
Equisetum pratense			PFO	Uncommon
Dryopterisintermedia			PFO	Uncommon
Carex crinita			PFO	Uncommon
Abies balsamea			PFO	Uncommon
Mitchella repens			PFO	Uncommon
Rubus pubescens			PFO	Uncommon
Carex pedunculata			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The flortisic integrity is moderate with dense vegetation and diversity at the herbaceous layer. The tree and shrub strata are dominated by Fraxinus nigra. The emergent meadow portion of the complex is densely vegetated with Calamagrostis canadensis cover.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
Χ			М	С	Utility corridor (above or subsurface)
			İ		Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
	.,				Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
	V	V		0	Removal of tree or shrub strata – logging,
	X	X	L	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	Х		М	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

ı	The feature, as well as the margins, show earthworm activity and are impacted by historic logging. The PEM portion
	of the complex has a power line running through it.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat		✓			
Shoreline Protection					√
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes		✓			

FUNCTION	RATIONALE
Floristic Integrity	Moderate diversity across three strata
Human Use Values	Feature is not visible to the public and is likely not accessible or used for research or recreation
Wildlife Habitat	Herbaceous vegetation is dense and tree cover is relatively diverse, standing water provides aquatic species habitat for amphibians, consistent tree cover provides arboreal species habitat
Fish and Aquatic Life Habitat	Feature provides standing water consistently
Shoreline Protection	N/A
Flood and Stormwater Storage	Area receives small quantities of runoff, is densely vegetated, but is not within an impactful area with respect to flood and stormwater storage
Water Quality Protection	Densely vegetated feature which is not directly associated with a stream or river
Groundwater Processes	Saturated consistently with recharge and some discharge hydrology, seeps present

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Pro	<u>city/C</u>	County: Ashland	Sampling Date: <u>2019-10-03</u>
	•		VI Sampling Point: wase048_u
Investigator(s): NTT/ARK/MAL	Section	on, Township, Range: 044N-002	2W-07
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Fo			
Soil Map Unit Name: Tula-Wormet-Goo			
Are climatic / hydrologic conditions on the sit			
Are Vegetation, Soil, or Hydr			
Are Vegetation, Soil, or Hydr			
SUMMARY OF FINDINGS – Attac	ch site map showing sam	npling point locations, trans	sects, important features, etc.
Hydrophytic Vegetation Present? Y	′es No √	Is the Sampled Area	
	/es No <u></u>	within a Wetland? Yes	No/
	/es No/_	If yes, optional Wetland Site ID:	
Remarks: (Explain alternative procedures Upland consisting of a mesic		minated by sugar manle	
Opiand consisting of a mesic	nardwood system do	minated by Sugar maple	··
HYDROLOGY			
Wetland Hydrology Indicators:			/ Indicators (minimum of two required)
Primary Indicators (minimum of one is requ			ce Soil Cracks (B6)
Surface Water (A1)	Water-Stained Leave		age Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)		Trim Lines (B16)
Saturation (A3)	Marl Deposits (B15)		eason Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Od Oxidized Rhizosphere		sh Burrows (C8) ation Visible on Aerial Imagery (C9)
Sediment Deposits (B2) Drift Deposits (B3)	Oxidized Knizospheri		ed or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction	• • •	orphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (0		w Aquitard (D3)
Inundation Visible on Aerial Imagery (E			opographic Relief (D4)
Sparsely Vegetated Concave Surface			Neutral Test (D5)
Field Observations:	· · ·		,
Surface Water Present? Yes	No _ ✓ Depth (inches):		
	No✓ Depth (inches):		
	No✓ Depth (inches):	Wetland Hydrology I	Present? Yes No/_
(includes capillary fringe) Describe Recorded Data (stream gauge, m	nonitoring well aerial photos pre	vious inspections) if available:	
Describe Recorded Data (stream gauge, m	iorinoring well, aerial priolos, pre	vious inspections), ii available.	
Remarks:	ore were observed		
No wetland hydrology indicat	ors were observed.		

VEGETATION – Use scientific names of plants.

EGETATION – Use scientific names of plants				Sampling Point: <u>wase048_</u> u
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
. Acer saccharum	62.5	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3		-		Species Across All Strata: 4 (B)
l		-		Percent of Dominant Species
5.				That Are OBL, FACW, or FAC:
5				Prevalence Index worksheet:
·				Total % Cover of: Multiply by:
	62.5	= Total Co	ver	OBL species x 1 =0
Sapling/Shrub Stratum (Plot size: 15')	4.0		=	FACW species0 x 2 =0 FAC species65 x 3 =195
1. <u>Abies balsamea</u>				FACU species 87.5 x 4 = 350
2				UPL species x 5 =0
3				Column Totals: <u>152.5</u> (A) <u>545</u> (B)
I				Prevalence Index = B/A =3.57
5				Hydrophytic Vegetation Indicators:
S				1 - Rapid Test for Hydrophytic Vegetation
7		= Total Co		2 - Dominance Test is >50%
lash Chartura (Distains)	10	= Total Co	ver	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5') 1. Abies balsamea	50	V	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Mitchella repens</u>			FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Carex pedunculata</u>		N.	FAC	
4				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
6				Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.
3.				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	80	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
l		-		
2.				
3				Hydrophytic
4				Vegetation Present? Yes No✓
	0.0	= Total Co	ver	

SOIL Sampling Point: wase048_u

Profile Des	cription: (Describe	to the dept	h needed to docum	nent the i	ndicator	or confirm	the absence of ind	licators.)
Depth	Matrix			x Features	4	1 2 2	Tandona	Damadia
(inches)	Color (moist) 10YR 3/1	100	Color (moist)	%	Type'	Loc ²	CL	Remarks
8-20	10YR 4/6						SIL	
0-20	10111 - 1/0	100		·			OIL	
				· ——				
				· ——				
				·				
				. ———				
				·				
1- 0.0							2,	
Hydric Soil	oncentration, D=Depl Indicators:	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix. oblematic Hydric Soils³:
Histoso	I (A1)		Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		RR R. MI	RA 149B)		Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)		Loamy Mucky N	/lineral (F	1) (LRR K		Dark Surface	e (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	e (A11)	Loamy Gleyed I Depleted Matrix)			elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L)
Thick D	ark Surface (A12)		Redox Dark Su	rface (F6)			Iron-Mangan	ese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1) Gleyed Matrix (S4)	-	Depleted Dark S Redox Depress		7)			oodplain Soils (F19) (MLRA 149B) c (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)	•	Redox Depiess	10113 (1 0)				Material (F21)
	d Matrix (S6) Irface (S7) (LRR R, N	ILRA 149B)					n Dark Surface (TF12) in in Remarks)
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type: Depth (in	ches):						Hydric Soil Prese	ent? Yes No <u>√</u>
Remarks:								
No hydri	c soil indicator	s were	observed.					



wase048_u_N



wase048_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-10-03
			Sampling Point: wase047f_w
Investigator(s): NTT/ARK/MAL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.			
Soil Map Unit Name: Tula-Wormet-Gogebic comple			
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation, Soil, or Hydrology si			
Are Vegetation, Soil, or Hydrology na			
SUMMARY OF FINDINGS – Attach site map s	showing sampling poin	ıt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No.	Is the Samp	oled Area	
Hydric Soil Present? Yes ✓ No	141 1 101	etland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ No		nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a sep			
Wet forest feature with an interrupted ca	люру.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all the	nat apply)	Surface Soil	Cracks (B6)
Surface Water (A1) Wate	er-Stained Leaves (B9)	Drainage Pa	atterns (B10)
	atic Fauna (B13)	Moss Trim L	
	Deposits (B15)		Water Table (C2)
	rogen Sulfide Odor (C1)	Crayfish Bur	
	ized Rhizospheres on Living R		isible on Aerial Imagery (C9)
	ence of Reduced Iron (C4) ent Iron Reduction in Tilled Soi		tressed Plants (D1)
	Muck Surface (C7)	Shallow Aqu	
	er (Explain in Remarks)		aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	(Explain in Romano)	Willordopogra	
Field Observations:		<u> </u>	1 1 1 0 0 1 (2 0)
Surface Water Present? Yes No ✓ Dep	oth (inches):		
	oth (inches):		
		Wetland Hydrology Preser	nt? Yes <u>√</u> No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, a	perial photos, previous inspecti	ions) if available:	
Describe Recorded Data (Stream gauge, monitoring well, a	eriai priotos, previous irispecti	ons), ii avallable.	
Remarks:	imo		
Feature with a saturated hydrologic regi	iiie.		

VEGETATION – Use scientific names of plants.

				Sampling Point: wase047f_v
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.				Total Number of Dominant
3		-	-	Species Across All Strata:9 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:
5		-		Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	50	= Total Co	ver	OBL species x 1 = 5
Sapling/Shrub Stratum (Plot size: 15')				FACW species 80 x 2 = 160 FAC species 5 x 3 = 15
. <u>Fraxinus nigra</u>				FACU species 12 x 4 = 48
2				UPL species x 5 =
3				Column Totals: 102 (A) 228 (B)
l		-	-	Dravalance Index B/A 2.24
5				Prevalence Index = B/A = 2.24
ò		-		Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	10	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations¹ (Provide supporting
. <u>Carex bromoides</u>		<u>Y</u>	<u>FACW</u>	data in Remarks or on a separate sheet)
2. <u>Tilia americana</u>		<u>Y</u>	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Mitchella repens</u>			FACU	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Carex crinita</u>		Y	OBL	be present, unless disturbed or problematic.
5. <u>Rubus pubescens</u>		<u>Y</u>	<u>FACW</u>	Definitions of Vegetation Strata:
s. <u>Equisetum pratense</u>				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. Athyrium angustum				at breast height (DBH), regardless of height.
8. <u>Fragaria virginiana</u>			FACU	Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11			·	
12			·	Woody vines – All woody vines greater than 3.28 ft in height.
	42	= Total Co	ver	
Woody Vine Stratum (Plot size:)				
1				
2				
				Hydrophytic Vegetation
3				
3 4		= Total Co		Present? Yes/ No

SOIL Sampling Point: wase047f_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth		Redox Features Color (moist) % Type ¹ Loc ²				- .			
(inches)	Color (moist) 10YR 2/1	100	Color (n	noist)	%	Type'	Loc ²	Texture MP	Remarks
3-10	7.5YR 4/3	80	7.5YR	5/8	20		M	SIL	Prominent redox
10-14		70	7.5YR		30	<u> </u>	N/I	SL	Prominent redox
,	7.5YR 4/3	60			40	<u> </u>	M	SIL	Prominent redox
17-10	7.511C 4 /5		7.011K	0/0				_OIL_	1 Torrillerit redox
-		·			·				
	-	· ——			· ——				
					-				
					-				
							-		
	-				· ——				
					·				
¹ Type: C=C	oncentration D=Den	letion, RM	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.	² l ocation	n: PL=Pore Lining, M=Matrix.
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators:								Indicators for Problematic Hydric Soils ³ :	
Histosol (A1) — Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B)							RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)	
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B)								5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L)							Dark Surface (S7) (LRR K, L)		
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L)									
Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Musky Minoral (S1) Replaced Dark Surface (F7)								<pre> Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)</pre>	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8)								Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
Sandy Redox (S5) Red Parent Material (F21)									
Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)								Very Shallow Dark Surface (TF12) Other (Explain in Remarks)	
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.									
Restrictive Layer (if observed):									
Type: Depth (inches):								Hydric Soil Present? Yes No	
Remarks:									
Redox concentrations present in lower soil layers.									



wase047f_w_E



wase047f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): MAL/ARK	
File #: wase047	Date of visit(s): 10/03/2019	
Location: PLSS: 044N-002W-07	Ecological Landsca North Central Forest	pe:
Lat: 46.30652 Long: -90.659763 County: Ashland Town/City/Village: Morse town	Watershed: LS14, Upper Bad River	
SITE DESCRIPTION		
Soils: Mapped Type(s): 5172C, 5171B, Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18	WWI Class: N/A Wetland Type(s):	
percent slopes, Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony Field Verified:	PFO - Hardwood	I Swamp
Series not verified. Soils were mucky peat above silt loam above sandy loam above silt loam.	Wetland Size: 0.17	Wetland Area Impacted 0.17
Hydrology: The wetland is saturated with pockets of standing water throughout with signs of prolonged inundation.	Vegetation: Plant Community Description(s): The canopy and shrub strata are dominated by Fraxinus nigra, with a mixed ground layer.	

SITE MAP		

SECTION 1: Functional Value Assessment

1			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N.	N.I	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Υ	Υ	plans
8	N.I	N.I	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
-	Y	Y	
10	Y	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	<u>N</u>	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Υ	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	NI A	NIA	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Υ	Water flow through wetland is NOT channelized
3	N	Y	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	1 1	11	Water Quality Protection
1	N	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Y	Y	Basin wetland or constricted outlet
3	<u>т</u> Ү	Y	Water flow through wetland is NOT channelized
4		· ·	Vegetated wetland associated with a lake or stream
\vdash	N N	N	_
5	N_	Y	Dense, persistent vegetation
6	N_	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	<u>N</u>	N	Stormwater or surface water from agricultural land is major hydrology source
8	<u>N</u>	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Ν	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
4	Y	Y	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	1.4	1.4	The state of the s

		at and Species Observation (including amphibians and reptiles) servation, tracks, scat, other sign; type of habitat: nesting, migratory,
wi	nter, etc.	
Observed	Potential	Species/Habitat/Comments
	Υ	Amphibians, insects, other arboreal species
Fis	sh and Aqua	atic Life Habitat and Species Observations
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
	Υ	Aquatic invertebrates
]

Section 1 Comments (Refer to Section 1 numbers)

WH-7: feature provides songbird habitat WH-10, FA-2: currently supports standing water GW-4: layer of mucky peat soil is present

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Carex bromoides			PFO	Common
Tilia americana			PFO	Uncommon
Mitchella repens			PFO	Uncommon
Carex crinita			PFO	Uncommon
Rubus pubescens			PFO	Uncommon
Equisetum pratense			PFO	Uncommon
Athyrium angustum			PFO	Uncommon
Fragaria virginiana			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The flortisic integrity is moderate with moderate diversity at the herbaceous layer. The tree and shrub strata are dominated by Fraxinus nigra.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	Х		M	U	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		M	С	grading, earthworms, etc.
V	V	V	N /	0	Removal of tree or shrub strata – logging,
X	X	X	M	С	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The feature and surrounding area are impacted by earthworm activity and historic loggin	g. There is a utility corridor
present to the northeast of the feature within the buffer area.	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat		✓			
Shoreline Protection					√
Flood and Stormwater Storage		✓			
Water Quality Protection		✓			
Groundwater Processes		✓			

FUNCTION	RATIONALE
Floristic Integrity	Moderate diversity across three strata
Human Use Values	Not visible to the public and is likely not accessible or used for research or recreation
Wildlife Habitat	Feature provides aquatic habitat for amphibians and insects, tree cover for arboreal species
Fish and Aquatic Life Habitat	Feature provides standing water consistently
Shoreline Protection	N/A
Flood and Stormwater Storage	Area receives small quantities of runoff but is not within an impactful area with respect to flood and stormwater storage
Water Quality Protection	Moderately vegetated feature, not directly associated with a stream or river
Groundwater Processes	Saturated consistently with recharge and possibly some discharge hydrology

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-03
•			
Investigator(s): NTT/ARK/MAL			
Landform (hillslope, terrace, etc.): Talf		-	
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Tula-Wormet-Gogebic			
Are climatic / hydrologic conditions on the site typic			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site	e map showing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sar	npled Area	
		-	No <u>√</u>
		ional Wetland Site ID:	
Remarks: (Explain alternative procedures here o	r in a separate report.)		
Mesic hardwood forested domina	ted by sugar maple.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; c	heck all that apply)	Surface Soi	l Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim I	
Saturation (A3)	Marl Deposits (B15)	Dry-Season	Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bu	
	Oxidized Rhizospheres on Living		/isible on Aerial Imagery (C9)
1 — · · · ·	Presence of Reduced Iron (C4)		Stressed Plants (D1)
	Recent Iron Reduction in Tilled S		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)	· -	raphic Relief (D4) al Test (D5)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutra	ii Test (D5)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Prese	nt? Yes No ✓
(includes capillary fringe)		, ,	
Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, previous inspe	ctions), if available:	
Remarks:			
No wetland hydrology indicators v	were observed.		

VEGETATION – Use scientific names of plants.

Tree Christian (Diet sine) 201	Absolute			Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. Acer saccharum				That Are OBL, FACW, or FAC:1 (A)
2. Populus grandidentata				Total Number of Dominant
3				Species Across All Strata:6(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 16.67 (A/B)
5				That Are OBL, FACW, or FAC:16.67 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	62.5	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species5 x 2 =10
1. Acer saccharum	10	Y	<u>FACU</u>	FAC species 20 x 3 = 60
2				FACU species 107.5 x 4 = 430 UPL species 0 x 5 = 0
3				Column Totals: 132.5 (A) 500 (B)
4.				(A)(B)
5				Prevalence Index = B/A = 3.77
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov		2 - Dominance Test is >50%
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0 ¹
1. Mitchella repens	25	Υ	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Abies balsamea		Y	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Acer saccharum			FACU	
4. Carex pedunculata		N	FAC	¹Indicators of hydric soil and wetland hydrology must
For the softens	_	N	FACW	be present, unless disturbed or problematic.
5. <u>Fraxinus nigra</u>6. <u>Dryopteris intermedia</u>			FAC	Definitions of Vegetation Strata:
			NI	Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Oryzopsis asperifolia</u>		_N_		at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9				
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				
12				Woody vines – All woody vines greater than 3.28 ft in height.
	62	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No _ ✓
	0.0	= Total Co	ver	
Remarks: (Include photo numbers here or on a separate Interrupted canopy of sugar maple with		th aspe	n. Braur	n-Blanquet scale used.

Sampling Point: wase047_u

SOIL Sampling Point: wase047_u

Profile Desc	cription: (De	scribe t	to the dep	th needed to docur	nent the i	ndicator	or confirm	the absence o	f indicators.)
Depth (inches)	Color (m	Matrix	%	Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks
(inches) 0-10	10YR		100	Color (Illoist)	70	туре	LUC	<u>rexture</u> _	Remarks
10-20			100		-			SIL	
		-, -							
					· 				
¹ Type: C=C Hydric Soil		D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		PL=Pore Lining, M=Matrix. or Problematic Hydric Soils ³ :
Histosol	(A1)			Polyvalue Belov		(S8) (LRF	RR,	2 cm Mu	ick (A10) (LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)			MLRA 149B) Thin Dark Surfa		RR R. MI	RA 149B)		rairie Redox (A16) (LRR K, L, R) ucky Peat or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4			Loamy Mucky N	/lineral (F1	1) (LRR K		Dark Su	rface (S7) (LRR K, L)
	d Layers (A5) d Below Dark		e (A11)	Loamy Gleyed Depleted Matrix)			e Below Surface (S8) (LRR K, L) rk Surface (S9) (LRR K, L)
Thick Da	ark Surface (/	A12)	` ,	Redox Dark Su	rface (F6)	\		Iron-Mar	nganese Masses (F12) (LRR K, L, R)
-	/lucky Minera Bleyed Matrix			Depleted Dark S Redox Depress		7)			nt Floodplain Soils (F19) (MLRA 149B) podic (TA6) (MLRA 144A, 145, 149B)
Sandy F	Redox (S5)	,		'	, ,			Red Par	ent Material (F21)
	l Matrix (S6) Irface (S7) (L	RR R, №	ILRA 149E	3)					allow Dark Surface (TF12) xplain in Remarks)
		-	ion and we	tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive Type:	Layer (if obs	erved):							
	ches):			<u> </u>				Hydric Soil P	resent? Yes No/_
Remarks:									
No hydri	c soil ind	icator	s were	observed.					



wase047_u_NE



wase047_u_NW

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project	City/C	County: Ash	ıland	s	Sampling Date: 2019	-09-28
Applicant/Owner: Enbridge	•						
Investigator(s): ARK/KDF							
Landform (hillslope, terrace, et							
Subregion (LRR or MLRA): No.	orthcentral Forests La	at: 46.307194	,	Long: -90.	658339	Datum: WC	3S84
Soil Map Unit Name: Tula-W							
Are climatic / hydrologic condit	_		•	•	-		
Are Vegetation, Soil							0
Are Vegetation, Soil		-					·
SUMMARY OF FINDING	S – Attach site	map showing san	npling poi	nt location	ns, transects, i	mportant feature	s, etc.
Hydrophytic Vegetation Prese Hydric Soil Present?	Yes <u></u> ✓	No No		etland?	Yes✓		
Wetland Hydrology Present? Remarks: (Explain alternative)			If yes, option	nal Wetland S	Site ID:		
groundwater.							
HYDROLOGY					2		
Wetland Hydrology Indicate		ack all that apply		_	-	rs (minimum of two req	<u>uirea)</u>
Primary Indicators (minimum					Surface Soil Cr		
✓ Surface Water (A1) ✓ High Water Table (A2)		Water-Stained LeaveAquatic Fauna (B13)			Drainage Patte Moss Trim Line		
Saturation (A3)		Marl Deposits (B15)			Dry-Season Wa		
Water Marks (B1)		_ Hydrogen Sulfide Od			Crayfish Burrov		
Sediment Deposits (B2)		_ Oxidized Rhizospher					C9)
Drift Deposits (B3)		Presence of Reduce	_		Stunted or Stre		,
Algal Mat or Crust (B4)		Recent Iron Reduction			Geomorphic Po		
Iron Deposits (B5)	_	_ Thin Muck Surface (0	27)	_	Shallow Aquita	rd (D3)	
Inundation Visible on Ae	rial Imagery (B7)	_ Other (Explain in Rer	marks)	_	Microtopograph	nic Relief (D4)	
Sparsely Vegetated Con-	cave Surface (B8)				✓ FAC-Neutral Telephone	est (D5)	
Field Observations:		0.4					
Surface Water Present?		Depth (inches): <u>24</u>					
Water Table Present? Saturation Present?		Depth (inches): <u>2</u> Depth (inches): <u>0</u>		Watland Us	rdrology Procent?	Yes✓ No_	
(includes capillary fringe)						res <u>√</u> No_	
Describe Recorded Data (stre	eam gauge, monitoring	g well, aerial photos, pre	vious inspect	ions), if availa	able:		
Remarks:							
Seasonally saturate	d discharge we	etland.					
i .							l

VEGETATION – Use scientific names of plants.

2.	/EGETATION – Use scientific names of plants.				Sampling Point: wase029e_v
Number of Dominant Species That Arro OBL, FACW, or FAC: 3	Tree Stratum (Plot size: 30')				Dominance Test worksheet:
3.					
4	2				Total Number of Dominant
That Are OBL, FACW, or FAC:100.00	3				
Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 47	4				
Total % Cover of:	5				That Are OBL, FACW, or FAC:
O	6				Prevalence Index worksheet:
FACW species 37	7				Total % Cover of: Multiply by:
1. Rubus idaeus		0	= Total Co	over	OBL species47 x 1 =47
FACU species					
UPL species	1. <u>Rubus idaeus</u>	5	Y	FAC	
Column Totals: 89	2				
Prevalence Index = B/A =1.53	3				
Herb Stratum (Plot size:5') 1. Calamagrostis canadensis	4				
The continuation of the	5				Prevalence Index = B/A =1.53
S Total Cover S S Total Cover S S S S S S S S S	6				
Herb Stratum (Plot size:5') 1. Calamagrostis canadensis	7				
Herb Stratum (Plot size: 5') Calamagrostis canadensis 35		5	= Total Co	over	
1. Calamagrostis canadensis 2. Verbena hastata 3. Carex lacustris 4. Glyceria canadensis 5. N. OBL 5. Phalaris arundinacea 6. Solidago gigantea 7. Eutrochium maculatum 2. N. OBL 8. Epilobium ciliatum 2. N. FACW 9. Sapling/shrub – Woody plants less than 3 in. Danad greater than or equal to 3.28 ft (1 m) tall. 10. Herb – All herbaceous (non-woody) plants, regardies, and woody vines greater than 3. height. Woody Vine Stratum (Plot size: 30') 1. Woody Vine Stratum (Plot size: 30') 1. Hydrophytic Vegetation Present? Yes V. No Present? Yes V. No Problematic Hydrophytic Vegetation Present? Yes V. No Problematic Hydrophytic Vegetation Present?	Herb Stratum (Plot size:5')				
3. Carex lacustris 4. Glyceria canadensis 5. N. OBL 5. Phalaris arundinacea 5. N. FACW 6. Solidago gigantea 7. Eutrochium maculatum 2. N. OBL 8. Epilobium ciliatum 2. N. FACW 9. Sapling/shrub – Woody plants 1 in. (7.6 cm) or more in d at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. Dand greater than or equal to 3.28 ft (1 m) tall. 11. Sapling/shrub – Woody plants less than 3.28 ft tall. Woody Vine Stratum (Plot size: 30') 1. Sapling/shrub – All woody vines greater than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft tall. Hydrophytic Vegetation Present? Yes / No PROBL	1. Calamagrostis canadensis	_35_	Y	OBL	data in Remarks or on a separate sheet)
4. Glyceria canadensis 5 N OBL 5. Phalaris arundinacea 5 N FACW 6. Solidago gigantea 7. Eutrochium maculatum 8. Epilobium ciliatum 9. Sapling/shrub – Woody plants less than 3 in. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in d at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in d at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. Definitions of Vegetation Present? Tree – Woody plants 3 in. (7.6 cm) or more in d at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. Definitions of Vegetation Present? Tree – Woody plants 3 in. (7.6 cm) or more in d at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. Definitions of Vegetation Present? Tree – Woody plants 3 in. (7.6 cm) or more in d at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. Definitions of Vegetation Present? Tree – Woody plants 3 in. (7.6 cm) or more in d at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. Definitions of Vegetation Present? Tree – Woody plants less than 3 in. Definitions of Vegetation Present? Tree – Woody plants less than 3 in. Definitions of Vegetation Present? Tree – Woody plants less disturbed or problematic. Tree – Woody plants less than 3 in. (7.6 cm) or more in d at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. Definitions of Vegetation Present? Tree – Woody plants less than 3 in. Definitions of Vegetation Present? Tree – Woody plants less disturbed or problematic.	2. <i>Verbena hastata</i>	_25	Y	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
A. Glyceria canadensis 5	3. Carex lacustris	5	N	OBL	¹ Indicators of hydric soil and wetland hydrology must
Solidago gigantea S N FACW Tree – Woody plants 3 in. (7.6 cm) or more in data breast height (DBH), regardless of height.	4. <u>Glyceria canadensis</u>	5	N	OBL	
7. Eutrochium maculatum 2 N OBL 8. Epilobium ciliatum 9. Sapling/shrub – Woody plants less than 3 in. Dand greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.1 height. Woody vines – All woody vines greater than 3.1 height. Hydrophytic Vegetation Present? Yes _ ✓ No	5. <i>Phalaris arundinacea</i>	5	N	FACW	Definitions of Vegetation Strata:
7. Eutrochium maculatum 2. N OBL 8. Epilobium ciliatum 9. Sapling/shrub – Woody plants less than 3 in. Dand greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.3 height. Woody vines – All woody vines greater than 3.3 height. Hydrophytic Vegetation Present? Yes No	6. <u>Solidago gigantea</u>	5	N	<u>FACW</u>	Tree – Woody plants 3 in (7.6 cm) or more in diamete
9	7. <u>Eutrochium maculatum</u>	2	N	OBL	
10	8. <u>Epilobium ciliatum</u>	2	N	FACW	Sapling/shrub – Woody plants less than 3 in. DBH
11	9				and greater than or equal to 3.28 ft (1 m) tall.
11.	10				Herb - All herbaceous (non-woody) plants, regardless
84	11				of size, and woody plants less than 3.28 ft tall.
84	12				Woody vines – All woody vines greater than 3.28 ft in
1		84	= Total Co	over	neight.
2	Woody Vine Stratum (Plot size: 30')				
3 Hydrophytic 4 Present? Yes ✓ No	1				
4 Végetation Vegetation Present? Yes No	2				
4 Present? Yes _ / _ No	3				Hydrophytic
	4				
		0	= Total Co	over	resent: res_v No
Remarks: (Include photo numbers here or on a separate sheet.)					
Cattail and duckweed in the wettest portion.	Cattail and duckweed in the wettest por	tion.			

SOIL Sampling Point: wase029e_w

Profile Desc	ription: (D	escribe t	o the dep	th needed	to docun	nent the ir	ndicator	or confirm	the absence	of indicators.)	
Depth (inches)	1 0						Toyeturo	Domonico			
(inches)	10YR			10YR		2	С	M	Texture M	Remarks Prominent redox concentrations	
8-15	10YR			5YR	-	5	<u> </u>	M	MMI	Prominent redox concentrations	
15-20			100	<u> </u>	4/0			IVI	M	T TOTHINGTH TEGOX CONCENTIATIONS	
15-20	<u>101K</u>	<u> </u>	100						IVI		
	-			-							
	-			-							
	-			-							
1									2		
¹ Type: C=Ce		, D=Depl	etion, RM:	=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :	
Histosol				Polyva	lue Belov	v Surface ((S8) (LR I	R R,		Muck (A10) (LRR K, L, MLRA 149B)	
✓ Histic Ep)		MLF	RA 149B)				Coast	Prairie Redox (A16) (LRR K, L, R)	
	istic (A3) en Sulfide (A	4)				ce (S9) (L 1ineral (F1		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)	
	d Layers (A5				-	Matrix (F2)		·, - /	Polyvalue Below Surface (S8) (LRR K, L)		
	d Below Dar		e (A11)		ed Matrix				Thin Dark Surface (S9) (LRR K, L)		
	ark Surface (Mucky Minera				Dark Sur	face (F6) Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Bleyed Matrix				Depressi		,			Spodic (TA6) (MLRA 144A, 145, 149B)	
	Redox (S5)									arent Material (F21)	
	l Matrix (S6) rface (S7) (L		LRA 149	3)						Shallow Dark Surface (TF12) (Explain in Remarks)	
		_	on and we	etland hydro	logy mus	t be prese	nt, unles	s disturbed o	or problemation	С.	
Restrictive	Layer (if ob	served):									
Type:	ahaa).								Hydric Soil	Present? Yes _ ✓ No	
Remarks:	ches):								Tiyano oon	11050Hz. 105 <u>-7</u> 100 <u></u>	
Muck an	d muckv	mine	ral. Dis	turbed.							
	,										



wase029e_w_N



wase029e_w_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: A:	shland	Sampling Date: 2019-10-03
•			Sampling Point: wase029f_w
Investigator(s): NTT/ARK/MAL			
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat:			
Soil Map Unit Name: Gogebic, very stony-Pence, ve			
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site m			ets, important reatures, etc.
Hydrophytic Vegetation Present? Yes✓	_ 110	Impled Area	/ No
1 -	_ 110	Wetland? Yes	
Wetland Hydrology Present? Yes✓		tional Wetland Site ID:	
Remarks: (Explain alternative procedures here or in Wet forest community that includes	multiple ATV trails and	d is part of a larger	wetland complex
Surrounding forest is dominated by	•		wouldn't complex.
Surrounding forest is dominated by	sugai mapie and nem	IUCK.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Ind	licators (minimum of two required)
Primary Indicators (minimum of one is required; chec	k all that apply)		
-	Water-Stained Leaves (B9)	Drainage I	
	Aquatic Fauna (B13)	Moss Trim	
	Marl Deposits (B15)		on Water Table (C2)
	Hydrogen Sulfide Odor (C1)		Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Livin	g Roots (C3) Saturation	Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or	r Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled	Soils (C6) <u>√</u> Geomorph	nic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow A	quitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopo	graphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neut	ral Test (D5)
Field Observations:			
	Depth (inches): 3		
	Depth (inches): 0		
	Depth (inches): 0	Wetland Hydrology Pres	sent? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring v	well, aerial photos, previous insp	L ections), if available:	
	,	,,	
Remarks:			
Feature with discharge hydrology.			

VEGETATION – Use scientific names of plants.

				Sampling Point: wase029f_w
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>				Number of Dominant Species That Are OBL, FACW, or FAC:9 (A)
2. <u>Betula alleghaniensis</u>				
3				Total Number of Dominant Species Across All Strata:
4.				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 90.00 (A/B)
6.				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	47.5			OBL species30 x 1 =30
Sapling/Shrub Stratum (Plot size: 15')				FACW species 62.5 x 2 = 125
1. <u>Fraxinus nigra</u>	15	Υ	FACW	FAC species <u>25</u> x 3 = <u>75</u>
2. Abies balsamea				FACU species5 x 4 =20
3				UPL species 0 x 5 = 0
4				Column Totals: <u>122.5</u> (A) <u>250</u> (B)
5				Prevalence Index = B/A = 2.04
6				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
7	25			∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		= Total Co	vei	3 - Prevalence Index is ≤3.0¹
1. <u>Carex lacustris</u>	25	Υ	OBL	4 - Morphological Adaptations ¹ (Provide supportinon data in Remarks or on a separate sheet)
2. Carex crinita		Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Dryopteris intermedia			FAC	
4. Equisetum pratense				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Fraxinus nigra</u>			FACW	
6. Acer saccharum				Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
8				at breast height (DBH), regardless of height.
				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9 10.				
			· · · · · · · · · · · · · · · · · · ·	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12	50	= Total Co		height.
Monday Vine Stratum (Plat size) 20'		= Total Co	vei	
Woody Vine Stratum (Plot size:30')				
1				
•				
				Hydrophytic
3				
2				Vegetation Present? Yes No

SOIL Sampling Point: wase029f_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth	Matr				x Features	1	. 2	- .	5		
(inches)	Color (moist		Color (n	noist)	%	Type'	Loc ²	SICL	Remarks		
3-6	10YR 3/		7.5YR	5/8	10	С	M		Prominent redox		
6-12	10YR 3/		7.5YR		5	С	M	SCL	Prominent redox		
	10YR 3/				10	С	M	CL	Prominent redox		
					·						
					·						
¹ Type: C=C Hydric Soil	oncentration, D=	Depletion, RM	=Reduced N	/latrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :		
Histoso	I (A1)		-		v Surface	(S8) (LRI	RR,	2 cm l	Muck (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2) istic (A3)			RA 149B) Jark Surfa		RR R. M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)		
Hydroge	en Sulfide (A4)		Loamy	Mucky M	/lineral (F	1) (LRR K		Dark S	Dark Surface (S7) (LRR K, L)		
	d Layers (A5) d Below Dark Su	ırface (A11)		√Gleyed I ed Matrix	Matrix (F2 : (F3)	2)		Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)			
Thick D	ark Surface (A12	2)	Redox	Dark Su	rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)			
-	Mucky Mineral (S Gleyed Matrix (S4			ed Dark S Depress	Surface (F	7)		<pre> Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)</pre>			
-	Redox (S5)	")	11000	Бергезз	10113 (1 0)				Parent Material (F21)		
	d Matrix (S6) urface (S7) (LRR	R, MLRA 149	В)						Shallow Dark Surface (TF12) (Explain in Remarks)		
	of hydrophytic ve	-	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	c.		
Restrictive Type:	Layer (if observ	ved):									
'' -	iches):							Hydric Soi	I Present? Yes <u>√</u> No		
Remarks:											
Redox c	oncentratio	ns preser	nt throug	hout b	ottom	layers					
1											



wase029f_w_N



wase029f_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): KDF/ARK	
File #: wase029	Date of visit(s): 09/28/2019	
Location: PLSS: 044N-002W-07	Ecological Landsca North Central Forest	ape:
Lat: 46.307275 Long: -90.658372 County: Ashland Town/City/Village: Morse town	Watershed: LS14, Upper Bad River	
SITE DESCRIPTION		
Soils: Mapped Type(s): 5172C Gogebic, very stony-Pence, very stony-Cathro complex, 5171B	WWI Class: N/A Wetland Type(s):	
Tula-Wormet-Gogebic complex Field Verified:	PFO/PEM complex -	hardwood swamp/fresh wet meadow
Series not verified. Soils were muck over mucky mineral over muck in the emergent component, and silty clay loam over	Wetland Size:	Wetland Area Impacted 1.22
coarse sand over sandy clay loam over clay loam in the forested component.	Vegetation: Plant Community D	Description(s):
Hydrology: The hydrologic regime is seasonally saturated with discharge hydrology, located at the top of a hill with a floating mat and small pool in the center of the wetland. Within the PFO, there are small pools of standing water present.	For the PFO, the canopy shrub vegetation is domi and Abies balsamea. Th Carex lacustris and Care	v is dominated by Betula alleghaniensis. The inanted by Ulmus americana, Fraxinus nigra, e herbaceous vegetation is dominated by ex bromoides. For the PEM, the herbaceous by Scirpus cyperinus and Calamagrostis

SIT	E MAP	 	 	

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Υ	Υ	Used for recreation (hunting, birding, hiking, etc.). List: ATV use
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3			Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	
	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	Υ	Υ	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	Υ	Υ	Ephemeral pond with water present > 45 days
10	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	Ν	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Y	Vegetation is inundated in spring
SP	.,		Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	14/ (14/ (Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	INA	TVA	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
4			
\vdash	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	Y	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	Ν	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	Υ	Discharge to surface water
9	Ν	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	Υ	Υ	Springs, seeps or indicators of groundwater present
2			Location near a groundwater divide or a headwater wetland
3	N	N	
	Y	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	N	Y	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-1: an ATV trail runs through the middle of the wetland WH-4: the utility corridor is not considered to be a significant wildlife barrier WH-7: forested upland area is present on either side of the utility corridor WH-10: standing water is present within small pockets of the wetland, along the margin of the standing water are floating mats of vegetation WQ-8: located on top of hill, discharge wetland ST-5: wetland is located at the top of a hill within a utility corridor and is heavily disturbed GW-4: soils were organic in the disturbed emergent wetland component Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed **Potential** Species/Habitat/Comments Avian, herpetofauna, mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2 🗌	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Betula alleghaniensis			PFO	Common
Ulmus americana			PFO	Common
Fraxinus nigra			PFO	Common
Abies balsamea	balsam fir		PFO	Common
Carex lacustris			PFO, PEM	Common
Carex bromoides			PFO	Common
Carex crinita			PFO	Common
Dryopteris intermedia			PFO	Common
Equisetum hyemale			PFO	Common
Calamagrostis canadensis			PEM	Common
Verbena hastata			PEM	Common
Glyceria canadensis			PEM	Uncommon
Phalaris arundinacea			PEM	Uncommon
Solidago gigantea			PEM	Uncommon
Eutrochium maculatum			PEM	Uncommon
Epilobium ciliatum			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The vegetation is comprised of native species expected within the plant community at a disturbed site. Non-native species (Phalaris arundinacea and Typha sp.) are present within the wetland.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor			
7					Filling, berms (non-impounding)			
					Drainage – tiles, ditches			
					Hydrologic changes - high capacity wells,			
					impounded water, increased runoff			
					Point source or stormwater discharge			
					Polluted runoff			
					Pond construction			
					Agriculture – row crops			
					Agriculture – hay			
					Agriculture – pasture			
					Roads or railroad			
Х	Х		Н	С	Utility corridor (above or subsurface)			
					Dams, dikes or levees			
					Soil subsidence, loss of soil structure			
					Sediment input			
					Removal of herbaceous stratum – mowing,			
					grading, earthworms, etc.			
					Removal of tree or shrub strata – logging,			
	X	X	L	U	unprescribed fire			
					Human trails – unpaved			
					Human trails – paved			
					Removal of large woody debris			
					Cover of non-native and/or invasive species			
					Residential land use			
					Urban, commercial or industrial use			
					Parking lot			
					Golf course			
					Gravel pit			
X	Х		М	С	Recreational use (boating, ATVs, etc.)			
					Excavation or soil grading			
					Other (list below):			
					, ,			

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is heavily impacted by the utility corridor and associated ATV trail running through the middle of the wetland.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values		√			
Wildlife Habitat		/			
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage		/			
Water Quality Protection		1			
Groundwater Processes		✓			

FUNCTION	RATIONALE
Floristic Integrity	Native species, non-natives present, highly disturbed site
Human Use Values	Used for ATV activity
Wildlife Habitat	Commonly disturbed by ATV use through the middle of the trail
Fish and Aquatic Life Habitat	Standing water could support aquatic invertebrates but not fish
Shoreline Protection	N/A
Flood and Stormwater Storage	Closed basin, dense herbaceous vegetation
Water Quality Protection	See above
Groundwater Processes	Discharge hydrology

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation	Proiect	City/	County: Ashland		Sampling Date: 2019-09-28		
	•				Sampling Point: wase029_u		
Investigator(s): ARK/KDF Section, Township, Range: 044N-002W-07							
Landform (hillslope, terrace, etc.): Talf Local relief (concave, convex, none): None Slope (%							
Subregion (LRR or MLRA): Northcentra							
Soil Map Unit Name: Tula-Wormet-0							
Are climatic / hydrologic conditions on th	•	•		•			
Are Vegetation, Soil, or h							
Are Vegetation, Soil, or h							
-	-						
SUMMARY OF FINDINGS – At	tach site	map showing sar	npling point loca	ations, transects	, important features, etc.		
Hydrophytic Vegetation Present?	Yes	No <u></u> ✓	Is the Sampled Are				
Hydric Soil Present?		No <u></u> ✓	within a Wetland?	Yes	No <u></u>		
Wetland Hydrology Present?		No <u></u>	If yes, optional Wet	land Site ID:			
Remarks: (Explain alternative procedu	res here or in	n a separate report.)					
Mesic forest.							
HYDROLOGY							
Wetland Hydrology Indicators:				Secondary Indica	tors (minimum of two required)		
Primary Indicators (minimum of one is	required; che	eck all that apply)		Surface Soil			
Surface Water (A1)	-	_ Water-Stained Leave	es (B9)	Drainage Pa			
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Li			
Saturation (A3)		_ Marl Deposits (B15)			Water Table (C2)		
Water Marks (B1)	_	_ Hydrogen Sulfide Od	dor (C1)	Crayfish Burn	rows (C8)		
Sediment Deposits (B2)	_	_ Oxidized Rhizosphe	res on Living Roots (C	3) Saturation Vi	sible on Aerial Imagery (C9)		
Drift Deposits (B3)		_ Presence of Reduce	, ,		tressed Plants (D1)		
Algal Mat or Crust (B4)		_ Recent Iron Reduction					
Iron Deposits (B5)		_ Thin Muck Surface (Shallow Aqui			
Inundation Visible on Aerial Image		_ Other (Explain in Re	emarks)		aphic Relief (D4)		
Sparsely Vegetated Concave Surf	ace (B8)			FAC-Neutral	Test (D5)		
Field Observations:	No. /	Donth (inches)					
		Depth (inches):					
		Depth (inches): Depth (inches):		nd Hydrology Procon	nt? Yes No √		
(includes capillary fringe)				, ,,	π: res No_ <u>γ</u> _		
Describe Recorded Data (stream gaug	e, monitorinç	g well, aerial photos, pro	evious inspections), if	available:			
Remarks:	vdrology	wore cheeryee	I				
No indicators of wetland h	yarology	were observed	1.				

VEGETATION – Use scientific names of plants.

/EGETATION - Use scientific names of plants				Sampling Point: wase029_u
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Acer saccharum	40	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2. Ostrya virginiana		Υ	FACU	
3. Abies balsamea		N	FAC	Total Number of Dominant Species Across All Strata:3(B)
4. <u>Betula alleghaniensis</u>				Percent of Dominant Species
5.				That Are OBL, FACW, or FAC: 0.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	_ 95	= Total Cov	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1				FAC species <u>22</u> x 3 = <u>66</u>
2.				FACU species101 x 4 =404
3.				UPL species0 x 5 =0
				Column Totals: <u>123</u> (A) <u>470</u> (B)
4				Prevalence Index = B/A =3.82
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
		= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') 1. Mitchella repens	20	V	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Carex pedunculata		<u></u> _N	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
•				replanderrydeprysic vegetation (Explan)
3. <u>Trientalis borealis</u>			FAC	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Brachyelytrum erectum</u>				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10		· 		Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	28	= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
1				
2				
3.				Hydrophytic
4.				Vegetation
	0	= Total Cov	/er	Present? Yes No/
Remarks: (Include photo numbers here or on a separate Mesic forest plants.	sheet.)			

SOIL Sampling Point: wase029_u

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indi	cators.)
Depth	Matrix			x Features		_Loc ²	Tantona	Remarks
(inches) 0-12	Color (moist) 10YR 3/2	100	Color (moist)	%	Type'	LOC	SCL Texture	Remarks
	7.5YR 3/3						SCL	
12-20	7.31K 3/3	100		· ——			SCL	
				· ———				
				·				
¹ Type: C=C	oncentration, D=Depl	etion. RM=	Reduced Matrix, MS	S=Masked	Sand Gr	ains.	² l ocation: Pl =P	ore Lining, M=Matrix.
Hydric Soil		00011, 1011	rtoddodd Matrix, Me	<u>5-Macroc</u>	Cana On			oblematic Hydric Soils ³ :
Histosol		-	Polyvalue Belov		(S8) (LR	RR,		10) (LRR K, L, MLRA 149B)
	oipedon (A2) stic (A3)		MLRA 149B) Thin Dark Surfa		.RR R. MI	RA 149B)		Redox (A16) (LRR K, L, R) eat or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)	- -	Loamy Mucky N	/lineral (F	1) (LRR K		Dark Surface	(S7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	- (Δ11)	Loamy Gleyed IDepleted Matrix)		· ·	ow Surface (S8) (LRR K, L) face (S9) (LRR K, L)
	ark Surface (A12)	(A11) .	Redox Dark Su					se Masses (F12) (LRR K, L, R)
Sandy N	Mucky Mineral (S1)		Depleted Dark	Surface (F	7)		Piedmont Floo	odplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4) Redox (S5)	-	Redox Depress	ions (F8)			Mesic Spodic Red Parent M	(TA6) (MLRA 144A, 145, 149B)
-	Matrix (S6)							Dark Surface (TF12)
	rface (S7) (LRR R, N	ILRA 149B)				Other (Explain	
³ Indicators o	f hydrophytic vegetat	ion and wet	land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive	Layer (if observed):							
Type:							Heatric Ocil Brosses	10 V N- (
	ches):						Hydric Soil Preser	nt? Yes No✓_
Remarks:	ators of hydric	soils w	ere observed					
140 maiot	ators of frydrio	30113 W	510 00001700	•				



wase029_u_N



wase029_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project	t	City/C	County: Ash	nland		Sampling Date:	2019-10-03
Applicant/Owner: Enbridge	•							
Investigator(s): NTT/ARK/								
Landform (hillslope, terrace, etc					-			
Subregion (LRR or MLRA): No								
Soil Map Unit Name: Tula-W								
Are climatic / hydrologic conditi	_		-	-	-	-		-9
Are Vegetation, Soil			-					./ No
Are Vegetation, Soil								<u> </u>
								_
SUMMARY OF FINDING	S – Attach sit	te m	nap showing sam	ipling poi	nt locatio	ons, transects,	important f	eatures, etc.
Hydrophytic Vegetation Prese	ent? Yes	✓	No	Is the Sam				
Hydric Soil Present?			_ No	within a W	etland?	Yes <u>√</u>	No	_
Wetland Hydrology Present?			No	If yes, optio	nal Wetland	Site ID:		
Remarks: (Explain alternative Mesic to wet hardwo				anony				
iviesic to wet rialuwe	ou lorest wit	.ii a	ii iiileirupieu c	апору.				
HYDROLOGY								
Wetland Hydrology Indicato	rs:					Secondary Indicat	tors (minimum c	of two required)
Primary Indicators (minimum	of one is required; of	checl	k all that apply)			Surface Soil 0	Cracks (B6)	
Surface Water (A1)			Water-Stained Leave			Drainage Patt	terns (B10)	
High Water Table (A2)			Aquatic Fauna (B13)			Moss Trim Lir		
Saturation (A3)			Marl Deposits (B15)			•	Vater Table (C2	:)
Water Marks (B1)			Hydrogen Sulfide Ode		. (00)	Crayfish Burro		(0.5)
Sediment Deposits (B2)			Oxidized Rhizosphere	_	Roots (C3)	Saturation Vis		
Drift Deposits (B3)			Presence of Reduced		ilo (CC)	Stunted or St		ر1ر)
Algal Mat or Crust (B4) Iron Deposits (B5)			Recent Iron Reductio Thin Muck Surface (C		olis (Co)	✓ Geomorphic F Shallow Aquit		
Inundation Visible on Aer	ial Imageny (R7)		Other (Explain in Ren			Microtopograp		
Sparsely Vegetated Cond		_	Other (Explain in Itel	nans)		✓ FAC-Neutral		
Field Observations:	2470 0411400 (20)					<u> </u>	1001 (20)	
Surface Water Present?	Yes No	✓	Depth (inches):					
Water Table Present?			Depth (inches):					
Saturation Present?			Depth (inches):		Wetland H	lydrology Present	t? Yes <u>√</u>	No
(includes capillary fringe) Describe Recorded Data (stre	am gauga manita	rina u	uall agricl photos pro	vious incono	tional if aug	ilabla		
Describe Recorded Data (Site	am gauge, monitor	iiig v	veii, aeriai priotos, pre	vious irispeci	lioris), ii ava	liable.		
Remarks:		· · ·			. (. 1.1	Landa de la const		
Located within a dep	oressionai se	ttin	g and likely na	s a satur	ated nyo	arologic regir	me.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute		Indicator	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>		Species?		Number of Dominant Species
Fraxilius riigia Betula alleghaniensis				That Are OBL, FACW, or FAC:4 (A)
•				Total Number of Dominant Species Across All Strata: 4 (B)
3				(,,
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5				111at Ale OBE, 1 AOW, 01 1 AC. 100.00 (AB)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	47.5	= Total Co	ver	OBL species <u>17.5</u> x 1 = <u>17.5</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species 60 x 2 = 120
1. <u>Fraxinus nigra</u>	<u> 17.5</u>	<u>Y</u>	<u>FACW</u>	FAC species x 3 = 45 FACU species 0 x 4 = 0
2		-		UPL species
3				Column Totals: 92.5 (A) 182.5 (B)
4				
5				Prevalence Index = B/A =1.97
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	17.5	= Total Co	ver	∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹
1. Scirpus hattorianus	17.5	Y	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Dryopteris intermedia</u>	5	N	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Rubus pubescens	5	N	FACW	1
4				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')				
1				
2				
3				Hydrophytic Vegetation
4		= Total Co		Present? Yes ✓ No
Remarks: (Include photo numbers here or on a separate		- 10tal C0	vGI	
Sample point collected on an ATV trail		represe	entative	of the overall feature. Braun-Blanquet
scale used.		•		·

Sampling Point: wase045f_w

SOIL Sampling Point: wase045f_w

Profile Desc	cription: (Describe t	o the de	oth needed	to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)		
Depth	Matrix				x Features	1	. 2	_			
(inches)	Color (moist)	<u>%</u>	Color (r	-	10	Type'	Loc²	Texture	Remarks Drawin and raday		
0-4	7.5YR 3/2	90	7.5YR			<u>C</u>	_M_	SIL			
4-18	7.5YR 4/4	_80_	<u>7.5R</u>	5/6	_20_	<u>C</u>	_M_	SCL	Prominent redox		
			-								
					· ——						
1- 0.0								2			
Hydric Soil	oncentration, D=Depl	etion, RN	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :		
Histosol			Polyva	alue Belov	w Surface	(S8) (LR	RR,		Muck (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2)			RA 149B)					Prairie Redox (A16) (LRR K, L, R)		
	istic (A3) en Sulfide (A4)				ıce (S9) (L ⁄lineral (F		LRA 149B) (. L)		Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L)		
Stratifie	d Layers (A5)		Loamy	/ Gleyed I	Matrix (F2		, –,	Polyva	alue Below Surface (S8) (LRR K, L)		
-	d Below Dark Surface	(A11)		ted Matrix				Thin Dark Surface (S9) (LRR K, L)			
	ark Surface (A12) Mucky Mineral (S1)				rface (F6) Surface (F	7)		Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B)			
-	Gleyed Matrix (S4)			Depress		.,		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)			
-	Redox (S5)							✓ Red Parent Material (F21)			
	d Matrix (S6) urface (S7) (LRR R, M	ILRA 149	B)					Very Shallow Dark Surface (TF12) Other (Explain in Remarks)			
	of hydrophytic vegetati	ion and w	etland hydro	ology mus	st be prese	ent, unles	s disturbed	or problemati	C.		
	Layer (if observed):										
Type:	\.							Hydric Soi	I Present? Yes No		
Remarks:	ches):							Tryuno con	100 <u> </u>		
	soils with redo	x con	centratio	ns pre	esent.						
				'							



wase045f_w_E



wase045f_w_N

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): MAL/ARK	
File #: wase045	Date of visit(s): 10/03/2019	
Location: PLSS: 044N-002W-07	Ecological Landsca North Central Forest	pe:
Lat: 46.306853 Long: -90.658722 County: Ashland Town/City/Village: Morse town	Watershed: LS14, Upper Bad River	
SITE DESCRIPTION		
Soils: Mapped Type(s): 5172C, 5171B, Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes, Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony	WWI Class: N/A Wetland Type(s):	1 Swomp
Field Verified:	PFO - Hardwood	a Swamp
Series not verified. Soils were silt loam above sandy clay loam.	Wetland Size: 0.08	Wetland Area Impacted 0.08
Hydrology: The feature is a compacted artificial wetland, likely an old logging road. The hydrologic regime is seasonally saturated with recharge hydrology.	layer of sedges. The of the feature but co	Description(s): er is relatively sparse with a ground tree cover is rooted at the margins ver the top the wetland and includes s and Fraxinus nigra.

SITE MAP			

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	Ν	Used for educational or scientific purposes
3	Ζ	N	Visually or physically accessible to public
4	Ν	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover >50%(south) 75% (north) intact
5		N	Occurs in a Joint Venture priority township
6	N	N	
0	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	N	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present > 45 days
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ζ	Ν	Wetland is connected or contiguous with perennial stream or lake
2	Ν	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Ν	Υ	Vegetation is inundated in spring
SP		-	Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	1 17 1	14/1	Storm and Floodwater Storage
1	Υ	V	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2			
	V	Y	Water flow through wetland is NOT channelized
3	Y	Υ	Water flow through wetland is NOT channelized
3	N	Y N	Dense, persistent vegetation
4	N N	Y N N	Dense, persistent vegetation Evidence of flashy hydrology
4 5	N N Y	Y N N Y	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow
4 5 6	N N Y	Y N N Y	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed
4 5 6 7	N N Y N	Y N N Y N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland
4 5 6 7 8	N N Y	Y N N Y	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
4 5 6 7 8 WQ	X X Y Z Z	Y N N Y N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection
4 5 6 7 8 WQ	X	Y N N Y N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section
4 5 6 7 8 WQ 1 2	X	Y N N Y N N N N N N Y	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet
4 5 6 7 8 WQ 1 2 3	Z	Y N N N Y N N N N Y Y Y Y Y	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized
4 5 6 7 8 WQ 1 2 3 4	N N Y N N N Y Y Y N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream
4 5 6 7 8 WQ 1 2 3 4 5	N N N N N N N N N N N N N N N N N N N	Y N N Y N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation
4 5 6 7 8 WQ 1 2 3 4 5	N N Y N N N N N N N N N N N N N N N N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
4 5 6 7 8 WQ 1 2 3 4 5 6 7	N N N N N N N N N N N N N N N N N N N	Y N N Y N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
4 5 6 7 8 WQ 1 2 3 4 5	N N Y N N N N N N N N N N N N N N N N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
4 5 6 7 8 WQ 1 2 3 4 5 6 7	N N N N N N N N N N N N N N N N N N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
4 5 6 7 8 WQ 1 2 3 4 5 6 7	N N Y N N N N N N N N N N N N N N N N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	N N N N N N N N N N N N N N N N N N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW	N N N N N N N N N N N N N N N N N N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2	N N N N N N N N N N N N N N N N N N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2	N N N N N N N N N N N N N N N N N N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with ≤10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
4 5 6 7 8 WQ 1 2 3 4 5 6 7 8 9 GW 1 2	N N N N N N N N N N N N N N N N N N N	Y N N N N N N N N N N N N N N N N N N N	Dense, persistent vegetation Evidence of flashy hydrology Point or non-point source inflow Impervious surfaces cover >10% of land surface within the watershed Within a watershed with <10% wetland Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection Provides substantial storage of storm and floodwater based on previous section Basin wetland or constricted outlet Water flow through wetland is NOT channelized Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

		nments (Refer to Section 1 numbers)
		, provide songbird habitat. rrently support standing water but seems to seasonally.
14/		et and Consiss Observation (including annulibions and neutiles)
Lis		at and Species Observation (including amphibians and reptiles) oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
	Y	The margins of the feature provide habitat for arboreal species including some songbirds.
		atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	inty intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Common
Betula alleghaniensis			PFO	Common
Scirpus hattorianus			PFO	Common
Dryopteris intermedia			PFO	Uncommon
Rubus pubescens			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The flortisic integrity is low to moderate, with sparse vegetation cover at the herbaceous layer. The tree stratum is dominated by Betula alleghaniensis and Fraxinus nigra, and overall diversity is low.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
` ,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
Х	Х		М	С	Point source or stormwater discharge
X	Х		М	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
Х	Х		М	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	Х	Х	М		Removal of herbaceous stratum – mowing,
X	^	^	IVI	С	grading, earthworms, etc.
Х	Х	Х	Н	С	Removal of tree or shrub strata – logging,
^	^	^	П	C	unprescribed fire
X	X		L	С	Human trails – unpaved
					Human trails – paved
	Χ		L	С	Removal of large woody debris
X	Χ		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The feature, as well as the margins, show earthworm activity. The wetland is impacted by historic logging, and is	
itself, likely an old logging road.	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Plant community is disturbed with low overall diversity
Human Use Values	The feature not visible to the public and is likely not accessible or used for research, recreation.
Wildlife Habitat	Herbaceous vegetation is sparse and tree cover is primarily a single species, margins of the feature provide habitat for arboreal species including some songbirds
Fish and Aquatic Life Habitat	Feature potentially provides standing water seasonally
Shoreline Protection	N/A
Flood and Stormwater Storage	Area receives small quantities of runoff and is not densely vegetated
Water Quality Protection	Sparsely vegetated feature which is not directly associated with standing water
Groundwater Processes	Feature is seasonally saturated and fed by precipitation and runoff

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/C	County: Ashland	Sar	mpling Date: <u>2019-10-03</u>		
-				Sampling Point: wase045_u		
Investigator(s): NTT/ARK/MAL				· -		
Landform (hillslope, terrace, etc.): Rise						
Subregion (LRR or MLRA): Northcentral Forests						
Soil Map Unit Name: Tula-Wormet-Gogebic						
Are climatic / hydrologic conditions on the site typic		•	•			
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach sit	e map showing sam	pling point location	s, transects, im	portant features, etc.		
Hydrophytic Vegetation Present? Yes	No <u></u>	Is the Sampled Area				
	✓ No	within a Wetland?	Yes	No <u>√</u>		
Wetland Hydrology Present? Yes		If yes, optional Wetland S	Site ID:			
Remarks: (Explain alternative procedures here of Upland point collected in a mesic	or in a separate report.)	with an interrupted	d canony Sar	nnle noint is		
shared with wetland wase046f.	Tiaidwood forest	with an interrupted	d carlopy. Sai	Tiple politi is		
Shared with Wetland Wasconsi.						
HYDROLOGY			racadom Indicatora	(minimum of two required)		
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; of the control of	shook all that apply)		-			
	Water-Stained Leave	c (B0)				
High Water Table (A2)	Aquatic Fauna (B13)		Drainage Patterns (B10)			
Saturation (A3)	Marl Deposits (B15)	-	Moss Trim Lines (B16) Dry-Season Water Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Ode	or (C1)	Crayfish Burrows			
Sediment Deposits (B2)	Oxidized Rhizosphere			on Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced	-	_ Stunted or Stress			
Algal Mat or Crust (B4)	Recent Iron Reductio		_ Geomorphic Posi			
Iron Deposits (B5)	Thin Muck Surface (C		Shallow Aquitard			
	Other (Explain in Ren		Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		_	FAC-Neutral Test			
Field Observations:				. (= =)		
Surface Water Present? Yes No _	✓ Depth (inches):					
Water Table Present? Yes No _	✓ Depth (inches):					
	✓ Depth (inches):	Wetland Hy	drology Present?	Yes No <u>√</u>		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, pre	vious inspections), if availa	ible:			
Boosinso recorded Bata (effecting gauge, monitor	ing won, donar photoe, pro	viodo inopositorioj, ii avalie				
Remarks: No wetland hydrology indicators	ware observed					
No welland hydrology indicators	were observed.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute	Dominant Species?	Indicator	Dominance Test worksheet:
1. Acer saccharum		Y		Number of Dominant Species
Tsuga canadensis				That Are OBL, FACW, or FAC: (A)
				Total Number of Dominant Species Across All Strata: 4 (B)
3				Species Across All Strata (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
5				111at Ale OBL, 1 ACW, 01 FAC
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	67.5	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>22.5</u> x 2 = <u>45</u>
1. <u>Abies balsamea</u>	25	Y	FAC	FAC species 30 x 3 = 90
2. Acer saccharum	5	N	<u>FACU</u>	FACU species 77.5 x 4 = 310
3				UPL species 0 x 5 = 0 Column Totals: 130 (A) 445 (B)
4				(A) 445 (B)
5.				Prevalence Index = B/A = 3.42
6.				Hydrophytic Vegetation Indicators:
7		-	· 	1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:)		- 10tai 00	• • • • • • • • • • • • • • • • • • • •	3 - Prevalence Index is ≤3.0¹
1. Fraxinus nigra	17 5	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Rubus pubescens		N	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Dryopteris intermedia</u>			FAC	
			FACU	¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9			·	and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11			· 	of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	32.5	= Total Co	ver	noight.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No ✓
		= Total Co	ver	Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate	sheet.)			
Canopy dominated by sugar maple and	hemloo	ck with	scattere	d balsam fir . Relatively bare ground
layer. Braun-Blanquet scale used.				

Sampling Point: wase045_u

SOIL Sampling Point: wase045_u

Profile Desc	ription: (D	escribe t	o the dep	oth needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)	
Depth (inches)	Color (ı	Matrix	%	Color (n		x Features %	Type ¹	Loc ²	Texture	Remarks	
(inches)				COIOI (II	noist)		туре	LOC		Remarks	
0-6	7.5YR		100		0/0	40			SIL		
6-12	7.5YR		_60_	<u>5YR</u>		_40_	<u>C</u>	_M_	_SIL_	Prominent redox	
<u>12-18</u>	<u>5YR</u>	6/8	_80_	7.5YR	3/3	_20_	<u>C</u>	_M_	SICL	Prominent redox	
	_										
				-						·	
¹ Type: C=C			etion, RM	=Reduced N	/latrix, MS	S=Masked	Sand Gra	ains.		n: PL=Pore Lining, M=Matrix.	
Hydric Soil							(00) (1.5)			for Problematic Hydric Soils ³ :	
Histosol	(A1) pipedon (A2	')		-	ilue Belov R A 149B)	v Surface	(S8) (LRI	κκ,		Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)	
	stic (A3)	.,		Thin D	ark Surfa	ce (S9) (L		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A					Mineral (F1		, L)		Surface (S7) (LRR K, L)	
	d Layers (A d Below Da		(A11)	-	ed Matrix	Matrix (F2 : (F3))			alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L)	
Thick Da	ark Surface	(A12)	(Redox	Dark Su	rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)		
-	Mucky Miner					Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Gleyed Matri Redox (S5)	x (S4)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
	Matrix (S6))							Very Shallow Dark Surface (TF12)		
Dark Su	rface (S7) (LRR R, M	LRA 149	B)					Other (Explain in Remarks)		
³ Indicators o	f hydrophyti	c vegetati	on and w	etland hydro	ology mus	t be prese	ent. unless	s disturbed	or problemati	C.	
Restrictive			on and w	oliana ny are	nogy mac	. 50 p. 600	711, 0111000	, alotal boa	Probleman	<u>. </u>	
Type:											
Depth (in	ches):								Hydric Soil	Present? Yes No	
Remarks:											
		cindica	ator F2	21; howe	ever, la	andsca	pe pos	sition an	nd domina	ant vegetation not indicative	
of wetlar	id.										



wase045_u_E



wase045_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-10-03		
			Sampling Point: wase046f_w		
Investigator(s): NTT/ARK/MAL			· -		
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR or MLRA): Northcentral Forests Lat: 46					
Soil Map Unit Name: Tula-Wormet-Gogebic comp					
	·				
Are climatic / hydrologic conditions on the site typical for the					
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology	naturally problematic? (I	f needed, explain any answ	ers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map	showing sampling poin	nt locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes ✓ 1	No Is the Samp	oled Area			
Hydric Soil Present? Yes ↑		tland? Yes <u>√</u>	No		
Wetland Hydrology Present? Yes ✓		nal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in a se		h . f a a t			
Wet forest community associated with	a perenniai waterbod	ly reature.			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)		
Primary Indicators (minimum of one is required; check all	that apply)	Surface Soi	Cracks (B6)		
✓ Surface Water (A1) Wa	ater-Stained Leaves (B9)	Drainage Pa	atterns (B10)		
✓ High Water Table (A2) — Aqı	uatic Fauna (B13)	Moss Trim Lines (B16)			
	rl Deposits (B15)		Water Table (C2)		
	drogen Sulfide Odor (C1)	Crayfish Bu			
	idized Rhizospheres on Living R		/isible on Aerial Imagery (C9)		
	esence of Reduced Iron (C4) cent Iron Reduction in Tilled Soi		Stressed Plants (D1)		
	in Muck Surface (C7)	• • • •	1 1		
	ner (Explain in Remarks)				
Sparsely Vegetated Concave Surface (B8)	ici (Expiairi iri Normano)		Il Test (D5)		
Field Observations:		<u> </u>			
Surface Water Present? Yes _ ✓ No De	epth (inches): 4				
Water Table Present? Yes _ ✓ No De					
Saturation Present? Yes _ ✓ No De	epth (inches): 0	Wetland Hydrology Prese	nt? Yes <u>√</u> No		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous inspecti	one) if available:			
Describe Recorded Data (Stream gauge, monitoring well,	aeriai priotos, previous irispecti	ons), ii avaliable.			
Remarks: Pockets of standing water present thro	wahout wetland Feat	tura likaly with a sa	turated hydrologic		
regime.	rugilout wettariu. I eat	iule likely will a sa	iturateu riyurologic		
regime.					

VEGETATION – Use scientific names of plants.

				Sampling Point: wase046f_w
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>				Number of Dominant Species That Are OBL, FACW, or FAC:
2				Total Number of Dominant Species Across All Strata: 10 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC:100.00_ (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	50	= Total Co	over	OBL species
Sapling/Shrub Stratum (Plot size:15')				FACW species 89.5 x 2 = 179
1. <u>Fraxinus nigra</u>	_ <u>17.5</u> _	<u>Y</u>	<u>FACW</u>	FAC species x 3 = 30 FACU species 0 x 4 = 0
2				
3				UPL species $0 \times 5 = 0$ Column Totals: $109.5 \times 6 \times 10^{-2}$ (B)
4				Column Totals. 109.5 (A) 219 (B)
5				Prevalence Index = B/A =
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
·	17.5			∠ 2 - Dominance Test is >50%
El .	17.5	= Total Ct	vei	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') 1. Rubus pubescens	5	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Dryopteris intermedia</u>			FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <i>Glyceria striata</i>			OBL	
4. Equisetum pratense			FACW	¹ Indicators of hydric soil and wetland hydrology must
5. Carex crinita			OBL	be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
6. <u>Carex pedunculata</u>		<u>r</u>		Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7. <u>Alnus incana</u>		Y	FACW	at breast height (DBH), regardless of height.
8. <u>Fraxinus nigra</u>				Sapling/shrub – Woody plants less than 3 in. DBH
9. <u>Onoclea sensibilis</u>	_ 2	N	<u>FACW</u>	and greater than or equal to 3.28 ft (1 m) tall.
10 11				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
				Woody vines – All woody vines greater than 3.28 ft in
12		= Total Co	over	height.
Woody Vine Stratum (Plot size:)				
Woody Vine Stratum (Plot size:30') 1 2.				
1 2				Hydrophytic
1				Hydrophytic Vegetation
1 2				

SOIL Sampling Point: wase046f_w

Profile Desc	cription: (Describe	to the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	Matrix				x Features			- .		
(inches)	Color (moist)	<u>%</u>	Color (r	noist)	%	Type'	Loc ²	Texture	Remarks	
0-14	10YR 2/1	100						_SC_		
<u>14-20</u>	10YR 2/1	_90_	<u>5YR</u>	3/4	10	<u> </u>	_M_	<u>SC</u>	Prominent redox	
	_									
¹ Type: C=C	oncentration, D=Dep	letion, RM	=Reduced I	Matrix, MS	S=Masked	Sand Gr	ains.	² Location	n: PL=Pore Lining, M=Matrix.	
Hydric Soil	Indicators:							Indicators	s for Problematic Hydric Soils ³ :	
Histosol	(A1) pipedon (A2)		-	alue Belov RA 149B)	w Surface	(S8) (LR I	R R,		Muck (A10) (LRR K, L, MLRA 149B) : Prairie Redox (A16) (LRR K, L, R)	
	istic (A3)			- /		.RR R, M	LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4)		Loamy	Mucky N	/lineral (F1	I) (LRR K		Dark	Surface (S7) (LRR K, L)	
	d Layers (A5) d Below Dark Surface	- (Δ11)		y Gleyed I ted Matrix	Matrix (F2))			alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L)	
	ark Surface (A12)	3 (/ (1 1)			rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)		
-	Mucky Mineral (S1)				Surface (F	7)			nont Floodplain Soils (F19) (MLRA 149B)	
-	Gleyed Matrix (S4) Redox (S5)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
-	Matrix (S6)							Very Shallow Dark Surface (TF12)		
Dark Su	ırface (S7) (LRR R, N	ILRA 1491	3)					Other	(Explain in Remarks)	
³ Indicators o	f hydrophytic vegetat	ion and we	etland hydro	ology mus	st be prese	ent, unles	s disturbed	or problemati	ic.	
Restrictive	Layer (if observed):									
Type:										
	ches):							Hydric Soi	I Present? Yes No	
Remarks:	n gulfida adar	oboom	ad							
пуагоде	n sulfide odor	observ	eu.							



wase046f_w_E



wase046f_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	MAL/ARK		
File #:	Date of visit(s):		
wase046	10/03/2019		
Location:	Ecological Landsca	ape:	
PLSS: <u>044N-002W-07</u>	North Central Forest		
	North Central Forest		
Lat: <u>46.30664</u> Long: <u>-90.658603</u>	Watershed:		
	LS14, Upper Bad River		
County: Ashland Town/City/Village: Morse town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	T3K		
5171B, Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony	Wetland Type(s):		
	PFO - Hardwood Swamp		
Field Verified:			
Series not verified. Soils were sandy clay	Wetland Size:	Wetland Area Impacted	
throughout the profile.	0.08	0.08	
anoughout and promot	Vegetation:	I	
	Plant Community D	escription(s).	
Hydrology:		er is relatively sparse with cover of	
The feature is a small saturated depression with	Carex crinita and Dryopteris intermedia. The tree cover is		
standing water present throughout.	composed of Fraxinus nigra and Betula alleghaniensis.		
standing water present throughout.		rub stratum present containing	
	Fraxinus nigra and A		

SITE MAP

SECTION 1: Functional Value Assessment

HU Y/N Potential Human Use Values: recreation, culture, education, science, natural scenic beauty 1 N N Used for educational or scientific purposes 3 N N Visually or physically accessible to public 4 N Y Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List: 6 N N List: 7 In or adjacent to RED FLAG areas List: 8 N N Usually or physically accessible to public 7 In or adjacent to RED FLAG areas List: 9 N N List: 1 N N N Supports or provides habitat for endangered, threatened or special concern species 1 In or adjacent to archaeological or cultural resource site With Willief Habitat 1 N N N Wetland and contiguous habitat 5-10 acres 2 Y Y 3 or more strata present (>-10% cover) 3 N N Within or adjacent to habitat corribor or established wildlife habitat area 4 Y Y 100 m buffer – natural land cover 250% (south) 73% (north) intact 5 N N Occurs in a Joint Venture prionty township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex.etc.) 7 Y Supports or provides habitat for SGON or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present > 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat for samphibians and aquatic invertebrates 13 N N Provides habitat for samphibians and aquatic invertebrates 14 Y Y Vetaland is connected or contiguous with perennial stream or lake 15 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 16 N N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 17 Y Y Vetaland is connected or contiguous with perennial stream or lake 18 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 19 Y Y Y Vetaland is connected or contiguous with perennial stream or lake 2 Y Y Y Wetaland is connected or contiguous with perenn			ECTION 1:	Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N N V Visually or physically accessible to public 4 N Y Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List: 5 N N List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Wildlife Habitat 1 N N Wetland and contiguous habitat >10 acres 2 Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corndor or established wildlife habitat area 4 N Y Y 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex.etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other 9 N P art of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 110 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 112 N N P Seasonally exposed mudflats present 113 N N P Art of a large habitat block that supports area sensitive species 114 Y Y Wetland is connected or contiguous with perennial stream or lake 115 N N P Seasonally exposed mudflats present 116 N N P Seasonally exposed mudflats present 117 N N Seasonally exposed mudflats present 118 N N P Revides habitat scarce in the area (urban, agricultural, etc.) 119 Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 1 Standing water provides habitat for amphibians and aquatic invertebrates 1 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 1 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 1 N N N Store flow through wetland is NOT channelized 1 N N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating 1 N N	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	Ν	Used for recreation (hunting, birding, hiking, etc.). List:
3	2	N	N	Used for educational or scientific purposes
A N Y Aesthetically pleasing due to diversity of habitat types, tack of pollution or degradation	3	N	N	
S	4			
S				
File	5	Ν	N	
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	N	NI	
Wildlife Habitat		IN	IN	
1				
2	+	NI	N.I.	
3 N N Within or adjacent to habitat corridor or established wildlife habitat area				
4 Y Y 100 m buffer — natural land cover >50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 N N Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y V Segetation is in undated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 2 N N Poensely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 4 N N Evidence of flashy hydrology 5 Y Y Point or non-point source inflow Water Quality Protection 1 N Y Potential for or non-point source inflow Water Quality Protection 1 N Y Potential or or surface water 10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Posicies substantial storage of storm and floodwater based on previous section 8 N N Dense, persistent vegetation 6 N N Discharge to surface water			·	
5				
Food				
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans				Occurs in a Joint Venture priority township
Y	6	N	N	Interspersion of nabitat structure (nemi-marsn,shrub/emergent, wetland/upland complex,etc.)
8 N N Part of a large habitat block that supports area sensitive species 9 Y Y Ephemeral pond with water present > 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 Y Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable 2 N N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 3 N Y Densely rototed emergent or woody vegetation Str Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 Y Y Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 3 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N Y Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 7 N N Stormwater or surface w	7	V	Y	
9				
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		at and Species Observation (including amphibians and reptiles)
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		Charles II labite to Comments
Observed	Potential Y	Species/Habitat/Comments
	Y	Songbirds, amphibians
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Observed	Potential	Species/Habitat
	Y	Aquatic invertebrates

Section 1 Comments (Refer to Section 1 numbers)

WH-7: feature provides songbird habitat WH-10, FA-2: currently supports standing water SP-1: associated with a perennial stream

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2 🗌	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Rubus pubescens			PFO	Common
Dryopteris intermedia			PFO	Uncommon
Glyceria striata			PFO	Uncommon
Equisetum pratense			PFO	Uncommon
Carex crinita			PFO	Uncommon
Carex pedunculata			PFO	Uncommon
Alnus incana			PFO	Uncommon
Onoclea sensibilis			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The floristic integrity is low to moderate with sparse vegetation cover at the herbaceous layer. The tree stratum is dominated by Betula alleghaniensis and Fraxinus nigra, and overall diversity is moderate.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
X			Н	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	V		B. //	0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
X	Х		M	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
	Х		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

ne feature, as well as the margins, shows earthworm activity. The wetland is impacted by historic logging and	
adways.	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE							
	Low	Medium	High	Exceptional	NA			
Floristic Integrity		✓						
Human Use Values	√							
Wildlife Habitat	√							
Fish and Aquatic Life Habitat		✓						
Shoreline Protection		✓						
Flood and Stormwater Storage		✓						
Water Quality Protection		√						
Groundwater Processes		✓						

FUNCTION	RATIONALE
Floristic Integrity	Plant community is disturbed with moderate overall diversity
Human Use Values	Feature not visible to the public and is likely not accessible or used for research or recreation
Wildlife Habitat	Herbaceous vegetation and tree cover is sparse, feature supports aquatic species including amphibians as well as terrestrial habitat for species including songbirds
Fish and Aquatic Life Habitat	Feature potentially provides standing water, connected to perennial stream
Shoreline Protection	Associated with perennial stream
Flood and Stormwater Storage	Area receives small quantities of runoff and is not densely vegetated
Water Quality Protection	Sparsely vegetated feature, connected to perennial stream
Groundwater Processes	Feature is saturated and fed by precipitation and runoff

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/C	County: Ashland	Sar	mpling Date: <u>2019-10-03</u>
-				Sampling Point: wase045_u
Investigator(s): NTT/ARK/MAL				· -
Landform (hillslope, terrace, etc.): Rise				
Subregion (LRR or MLRA): Northcentral Forests				
Soil Map Unit Name: Tula-Wormet-Gogebic				
Are climatic / hydrologic conditions on the site typic		•	•	
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach sit	e map showing sam	pling point location	s, transects, im	portant features, etc.
Hydrophytic Vegetation Present? Yes	No <u></u>	Is the Sampled Area		
	✓ No	within a Wetland?	Yes	No <u>√</u>
Wetland Hydrology Present? Yes		If yes, optional Wetland S	Site ID:	
Remarks: (Explain alternative procedures here of Upland point collected in a mesic	or in a separate report.)	with an interrupted	d canony Sar	nnle noint is
shared with wetland wase046f.	Tiaidwood forest	with an interrupted	d carlopy. Sai	Tiple politi is
Shared with Wetland Wasconsi.				
HYDROLOGY			racadom Indicatora	(minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; of the control of	shook all that apply)		-	
	Water-Stained Leave	c (B0)	Surface Soil Crac Drainage Patterns	
High Water Table (A2)	Aquatic Fauna (B13)		Drainage Fatterns Moss Trim Lines	
Saturation (A3)	Marl Deposits (B15)	-	Dry-Season Wate	
Water Marks (B1)	Hydrogen Sulfide Ode	or (C1)	Crayfish Burrows	
Sediment Deposits (B2)	Oxidized Rhizosphere			on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced	-	_ Stunted or Stress	
Algal Mat or Crust (B4)	Recent Iron Reductio		_ Geomorphic Posi	
Iron Deposits (B5)	Thin Muck Surface (C		Shallow Aquitard	
	Other (Explain in Ren		Microtopographic	
Sparsely Vegetated Concave Surface (B8)		_	FAC-Neutral Test	
Field Observations:				. (= =)
Surface Water Present? Yes No _	✓ Depth (inches):			
Water Table Present? Yes No _	✓ Depth (inches):			
	✓ Depth (inches):	Wetland Hy	drology Present?	Yes No <u>√</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, pre	vious inspections), if availa	ible:	
Boosinso recorded Bata (effecting gauge, monitor	ing won, donar photoe, pro	viodo inopositorioj, ii avalie		
Remarks: No wetland hydrology indicators	ware observed			
No welland hydrology indicators	were observed.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30')	Absolute	Dominant Species?	Indicator	Dominance Test worksheet:
1. Acer saccharum		Y		Number of Dominant Species
Tsuga canadensis				That Are OBL, FACW, or FAC: (A)
				Total Number of Dominant Species Across All Strata: 4 (B)
3				Species Across All Strata (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
5				111at Ale OBL, 1 ACW, 01 FAC
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	67.5	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species <u>22.5</u> x 2 = <u>45</u>
1. <u>Abies balsamea</u>	25	Y	FAC	FAC species 30 x 3 = 90
2. Acer saccharum	5	N	<u>FACU</u>	FACU species 77.5 x 4 = 310
3				UPL species 0 x 5 = 0 Column Totals: 130 (A) 445 (B)
4				(A) 445 (B)
5.				Prevalence Index = B/A = 3.42
6.				Hydrophytic Vegetation Indicators:
7		-	· 	1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	2 - Dominance Test is >50%
Herb Stratum (Plot size:)		- 10tai 00	• • • • • • • • • • • • • • • • • • • •	3 - Prevalence Index is ≤3.0¹
1. Fraxinus nigra	17 5	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Rubus pubescens		N	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Dryopteris intermedia</u>			FAC	
			FACU	¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9			·	and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11			· 	of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in height.
	32.5	= Total Co	ver	noight.
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No ✓
		= Total Co	ver	Present? Yes No ✓
Remarks: (Include photo numbers here or on a separate	sheet.)			
Canopy dominated by sugar maple and	hemloo	ck with	scattere	d balsam fir . Relatively bare ground
layer. Braun-Blanquet scale used.				

Sampling Point: wase045_u

SOIL Sampling Point: wase045_u

Profile Desc	ription: (D	escribe t	o the dep	oth needed	to docun	nent the i	ndicator	or confirm	the absence	of indicators.)
Depth (inches)	Color (ı	Matrix	%	Color (n		x Features %	Type ¹	Loc ²	Texture	Remarks
(inches)				COIOI (II	noist)		туре	LOC		Remarks
0-6	7.5YR		100		0/0	40			SIL	
6-12	7.5YR		_60_	<u>5YR</u>		_40_	<u>C</u>	_M_	_SIL_	Prominent redox
<u>12-18</u>	<u>5YR</u>	6/8	_80_	7.5YR	3/3	_20_	<u>C</u>	_M_	SICL	Prominent redox
	_									
				-						·
¹ Type: C=C			etion, RM	=Reduced N	/latrix, MS	S=Masked	Sand Gra	ains.		n: PL=Pore Lining, M=Matrix.
Hydric Soil							(00) (1.5)			for Problematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2	')		-	ilue Belov R A 149B)	v Surface	(S8) (LRI	κκ,		Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)
	stic (A3)	.,		Thin D	ark Surfa	ce (S9) (L		LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A					Mineral (F1		, L)		Surface (S7) (LRR K, L)
	d Layers (A d Below Da		(A11)	-	ed Matrix	Matrix (F2 : (F3))			alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L)
Thick Da	ark Surface	(A12)	(Redox	Dark Su	rface (F6)			Iron-M	langanese Masses (F12) (LRR K, L, R)
-	Mucky Miner					Surface (F	7)			nont Floodplain Soils (F19) (MLRA 149B)
	Gleyed Matri Redox (S5)	x (S4)		Redox	Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21)
	Matrix (S6))								Shallow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, M	LRA 149	B)					Other	(Explain in Remarks)
³ Indicators o	f hydrophyti	c vegetati	on and w	etland hydro	ology mus	t be prese	ent. unless	s disturbed	or problemati	C.
Restrictive			on and w	oliana ny are	nogy mac	. 50 p. 600	711, 0111000	, alotal boa	Probleman	<u>. </u>
Type:										
Depth (in	ches):								Hydric Soil	Present? Yes No
Remarks:										
		cindica	ator F2	21; howe	ever, la	andsca	pe pos	sition an	nd domina	ant vegetation not indicative
of wetlar	id.									



wase045_u_E



wase045_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City	/County: Ashland Sampling Date: 2019-09-28
•	State: WI Sampling Point: wase026f_w
Investigator(s): ARK/KDF Sec	ction, Township, Range: <u>044N-002W-07</u>
	elief (concave, convex, none): None Slope (%): 0-2%
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.305640	Long: <u>-90.657696</u> Datum: <u>WGS84</u>
Soil Map Unit Name: Tula-Wormet-Gogebic complex, 0 to 6 pe	rcent slopes, very stony NWI classification: R4SBC
Are climatic / hydrologic conditions on the site typical for this time of year?	
	urbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally probler	
	mpling point locations, transects, important features, etc.
Soliman or Findings – Attach site map showing sa	
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes <u>✓</u> No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.) Wet-mesic, forested floodplain of small perennial	stream, with inputs from discharge slopes.
Trot mode, rerested medapiam or small pereminal	on barry, with impate from alcortal go biopool
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leav	ves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13	3) Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide C	Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizosphe	eres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduc	· ' '
Algal Mat or Crust (B4) Recent Iron Reduct	
Iron Deposits (B5) Thin Muck Surface	· · · · · · · · · · · · · · · · · · ·
Inundation Visible on Aerial Imagery (B7) Other (Explain in R	· · · · · · · · · · · · · · · · · · ·
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _ ✓ Depth (inches):	
Water Table Present? Yes No _ ✓ Depth (inches):	
Saturation Present? Yes No ✓ Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:
Remarks: Seasonally saturated. Discharge from groundwate	er occurs on some footslones
Coasonally saturated. Disonarge from groundwate	or occurs on some rootstopes.

VEGETATION – Use scientific names of plants.

				Sampling Point: wase026f_w		
Tree Stratum (Plot size:30')	Absolute % Cover		Indicator Status	Dominance Test worksheet:		
1. Fraxinus pennsylvanica				Number of Dominant Species That Are OBL, FACW, or FAC:5 (A)		
Fraxinus nigra						
3. Abies balsamea				Total Number of Dominant Species Across All Strata: 7 (B)		
Betula alleghaniensis			FAC			
5. <u>Ulmus americana</u>				Percent of Dominant Species That Are OBL, FACW, or FAC: 71.43 (A/B)		
				, ,		
6				Prevalence Index worksheet:		
7				Total % Cover of: Multiply by:		
0 11 (0) 1 0 (0) (0)	85	= Total Co	ver	OBL species 20 x1 = 20		
Sapling/Shrub Stratum (Plot size: 15')	_			FACW species65 x 2 =130 FAC species42 x 3 =126		
1. <u>Acer saccharum</u>				FACU species x 4 = 108		
2. <u>Alnus incana</u>				UPL species		
3. <u>Prunus serotina</u>	2	N	<u>FACU</u>	Column Totals: <u>154</u> (A) <u>384</u> (B)		
4				Prevalence Index = B/A = 2.49		
5						
6			·	Hydrophytic Vegetation Indicators:		
7				1 - Rapid Test for Hydrophytic Vegetation		
	12	= Total Co	ver	 ∠ 2 - Dominance Test is >50% ∠ 3 - Prevalence Index is ≤3.0¹ 		
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting		
1. Carex gracillima	20	<u>Y</u>	<u>FACU</u>	data in Remarks or on a separate sheet)		
2. Glyceria striata	10	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)		
3. <u>Carex crinita</u>	10	Y	OBL	1		
4. <u>Dryopteris intermedia</u>		N	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
5. <u>Equisetum sylvaticum</u>			FACW	Definitions of Vegetation Strata:		
6. Athyrium angustum			FAC			
7. <u>Carex projecta</u>			FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
8.						
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
10.				Herb – All herbaceous (non-woody) plants, regardless		
11.				of size, and woody plants less than 3.28 ft tall.		
				Woody vines – All woody vines greater than 3.28 ft in		
12.	57	= Total Co		height.		
Woody Vine Stratum (Blot size) 20'		= 10(a) C0	ver			
Woody Vine Stratum (Plot size:)						
1.						
2						
			· ——	Hydrophytic Vegetation		
3						
4.		-		Present? Yes <u>√</u> No		

SOIL Sampling Point: wase026f_w

Profile Desc	cription: (Describe	to the dept	h needed to docum	nent the i	ndicator	or confirm	the absence of indicator	rs.)
Depth	Matrix	0/	Redo:	x Feature:	4	1 2	Tautuma	Remarks
(inches)	Color (moist) 10YR 2/2	100	Color (moist)	%	Type'	Loc ²	Texture	Remarks
8-20	10YR 2/2						LS	
0-20	1011\ 2/2	100					LO	
	_							
		-						
				-				
	-	·						
¹ Type: C=C	oncentration, D=Dep	letion. RM=	Reduced Matrix. MS	S=Masked	Sand Gra	ains.	² Location: PL=Pore L	 Lining, M=Matrix.
Hydric Soil							Indicators for Problem	
Histosol			Polyvalue Belov MLRA 149B)		(S8) (LRF	RR,		LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)		Thin Dark Surfa		.RR R, MI	_RA 149B)		ox (A16) (LRR K, L, R) or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)		∠ Loamy Mucky N	/lineral (F	1) (LRR K		Dark Surface (S7)	(LRR K, L)
	d Layers (A5) d Below Dark Surface	- (Δ11)	Loamy Gleyed I Depleted Matrix)		Polyvalue Below SThin Dark Surface	urface (S8) (LRR K, L)
-	ark Surface (A12)	<i>(</i> A11)	Redox Dark Sui					asses (F12) (LRR K, L, R)
-	Mucky Mineral (S1)		Depleted Dark S		7)			in Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4) Redox (S5)		Redox Depress	ions (F8)			Mesic Spodic (TA6 Red Parent Materia) (MLRA 144A, 145, 149B)
-	d Matrix (S6)						Very Shallow Dark	
Dark Su	ırface (S7) (LRR R, N	ILRA 149B)				Other (Explain in R	emarks)
³ Indicators o	of hydrophytic vegetat	ion and we	tland hydrology mus	t be prese	ent, unless	s disturbed	or problematic.	
Restrictive	Layer (if observed):							
Type:								V ()
Depth (in	iches):						Hydric Soil Present?	Yes ✓ No
Remarks:	oam grading to	loamy	sand					
I widoky ic	diri gradirig to	loailly	Jana.					



wase026f_w_N



wase026f_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): KDF/ARK		
File #: wase026	Date of visit(s): 09/28/2019		
Location: PLSS: 044N-002W-07	Ecological Landsca North Central Forest	ape:	
Lat: 46.305673 Long: -90.657575 County: Ashland Town/City/Village: Morse town	Watershed: LS14, Upper Bad River		
SITE DESCRIPTION	I		
Soils: Mapped Type(s):	WWI Class:		
5172C Gogebic, very stony-Pence, very stony-Cathro complex, 5171B Tula-Wormet-Gogebic complex Field Verified:	Wetland Type(s): PFO - hardwood swamp		
Series not verified. Soils were a mucky loam grading to loamy sand.	Wetland Size: 0.29	Wetland Area Impacted 0.29	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The hydrologic regime is seasonally saturated with recharge hydrology.	The canopy is dominated by Betula alleghaniensis, Fraxinus nigra, and Abies balsamea. Alnus incana and Fraxinus nigra dominate the shrub layer. Carex gracillima dominates the herbaceous layer.		

SITE MAP

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	Ν	Ν	Used for educational or scientific purposes
3	Ν	N	Visually or physically accessible to public
4	N	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5			Occurs in a Joint Venture priority township
6	N	N	Interpretation of habitat atrusture (hami march abrub/amargant, watland/unland complay etc.)
0	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Ν	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	N	Υ	Part of a large habitat block that supports area sensitive species
9	N	Υ	Ephemeral pond with water present <u>> 45 days</u>
10	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Υ	Υ	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
	•		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	Y	water levels or high flows – if no, not applicable
3	Υ	Υ	Densely rooted emergent or woody vegetation
ST	-	•	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y	Y	Water flow through wetland is NOT channelized
3	Y	Y	Dense, persistent vegetation
-		_	
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Υ	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	Υ	Υ	Vegetated wetland associated with a lake or stream
5	Υ	Υ	Dense, persistent vegetation
6	Ν	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Ν	N	Stormwater or surface water from agricultural land is major hydrology source
8	Υ	Y	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW	.,		Groundwater Processes
1	Υ	Υ	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	Y	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	Y	Y	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-4: some degradation due to earthworm activity and historic logging
WQ-5: some areas of wetland are densely vegetated but other areas are sparsely vegetated
SP-2: some evidence of erosion along bank of small stream but densely rooted vegetation is present, stream can not support recreational activities that would cause further erosion Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Herpetofauna, mammals, insects Avian Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2 🗌	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant [Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus pennsylvanica			PFO	Common
Fraxinus nigra			PFO	Common
Abies balsamea	balsam fir		PFO	Common
Betula alleghaniensis			PFO	Common
Ulmus americana			PFO	Uncommon
Acer saccharum			PFO	Uncommon
Alnus incana			PFO	Uncommon
Prunus serotina			PFO	Uncommon
Carex gracillima			PFO	Common
Glyceria striata			PFO	Common
Carex crinita			PFO	Common
Dryopteris intermedia			PFO	Uncommon
Equisetum sylvaticum			PFO	Uncommon
Athyrium angustum			PFO	Uncommon
Carex projecta			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The vegetation is comprised of native species expected within the plant community, with no observable invasive species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
71100 (7171)			2010.	Troquonoy	Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	Х		L	U	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
.,	.,				Removal of herbaceous stratum – mowing,
X	X		М	С	grading, earthworms, etc.
V					Removal of tree or shrub strata – logging,
X	X	X	M	U	unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
	Х		L	U	Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland and surrounding area is primarily influenced by earthworm activity resulting in degradation of the
herbaceous vegetation. Previous logging activity likely occurred evidenced by young growth trees. An ATV trail is
located within the utility corridor nearby.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE					
	Low	Medium	High	Exceptional	NA	
Floristic Integrity		✓				
Human Use Values	√					
Wildlife Habitat		✓				
Fish and Aquatic Life Habitat	√					
Shoreline Protection		✓				
Flood and Stormwater Storage			√			
Water Quality Protection			√			
Groundwater Processes			√			

FUNCTION	RATIONALE			
Floristic Integrity	Native species, no invasives, apparent degradation of herbaceous ayer due to earthworm activity			
Human Use Values	Private land, limited accessibility			
Wildlife Habitat	Multiple strata represented, potential for standing water and located alongside a stream			
Fish and Aquatic Life Habitat	Potential standing water may support aquatic invertebrates but not fish			
Shoreline Protection	Densely rooted trees along the stream, some evidence of erosion			
Flood and Stormwater Storage	Closed basin with dense vegetation. The wetland has potential to store and filter water from the associated stream			
Water Quality Protection	See above, associated with stream			
Groundwater Processes	Recharge hydrology, seeps present			

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: _/	Ashland	Saı	mpling Date: <u>2019-09-30</u>					
Applicant/Owner: Enbridge									
Investigator(s): ARK/KDF	Section, Town	nship, Range: <u>044</u>	N-002W-07						
Landform (hillslope, terrace, etc.): Footslope									
Subregion (LRR or MLRA): Northcentral Forests Lat: 46									
Soil Map Unit Name: Gogebic, very stony-Pence, very st									
Are climatic / hydrologic conditions on the site typical for th			_						
Are Vegetation, Soil, or Hydrology									
Are Vegetation, Soil, or Hydrology									
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vegetation Present? Yes N	10	Sampled Area							
Hydric Soil Present? Yes 1	40 <u>4</u>	a Wetland?	Yes	No <u>√</u>					
Wetland Hydrology Present? Yes N Remarks: (Explain alternative procedures here or in a se		optional Wetland Site	e ID:						
Mesic forest located on a footslope.									
HYDROLOGY									
Wetland Hydrology Indicators:			-	(minimum of two required)					
Primary Indicators (minimum of one is required; check all									
				Drainage Patterns (B10)					
	uatic Fauna (B13) rl Deposits (B15)		<pre> Moss Trim Lines (B16) Dry-Season Water Table (C2)</pre>						
	drogen Sulfide Odor (C1)		Crayfish Burrows						
				Visible on Aerial Imagery (C9)					
	Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)			sed Plants (D1)					
Algal Mat or Crust (B4) Rec	Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)			ition (D2)					
	Thin Muck Surface (C7) Shallow Aquitard (D3)								
	 								
Sparsely Vegetated Concave Surface (B8)			FAC-Neutral Tes	t (D5)					
Field Observations:	andle (in ale a a).								
	epth (inches): epth (inches): <u>6</u>								
	epth (inches):		rology Present?	Yes No <u>√</u>					
(includes capillary fringe)		_		103 110_ <u>v</u>					
Describe Recorded Data (stream gauge, monitoring well,	aerial photos, previous ins	spections), if availab	le:						
Remarks:									
No indicators of wetland hydrology we		water table w	as observed	at 6 inches below					
surface, however this follows heavy ra	ins.								

				Sampling Point: <u>wase026</u>
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Quercus rubra		Υ		Number of Dominant Species That Are OBL, FACW, or FAC: (A
2. Acer saccharum		Y	FACU	
3. <u>Tilia americana</u>		N	FACU	Total Number of Dominant Species Across All Strata: 4 (B
Thuja occidentalis			FACW	
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 25.00 (A
5				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	_120	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size: 15')				FACW species5 x 2 =10
				FAC species11 x 3 =33
2.				FACU species <u>125</u> x 4 = <u>500</u>
3.				UPL species 0 x 5 = 0
				Column Totals: <u>141</u> (A) <u>543</u> (
l				Prevalence Index = B/A = 3.85
j				
S				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
	0	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') . Mitchella repens	10	V	FACU	4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet)
			FAC	Problematic Hydrophytic Vegetation¹ (Explain)
2. Athyrium angustum				Troblemate Tryalophytic Vegetation (Explain)
3. <u>Carex pedunculata</u>			<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology mus
4				be present, unless disturbed or problematic.
5		-		Definitions of Vegetation Strata:
5		-		Tree – Woody plants 3 in. (7.6 cm) or more in diame
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9	_			and greater than or equal to 3.28 ft (1 m) tall.
10	_			Herb – All herbaceous (non-woody) plants, regardle
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft
	21	= Total Co	ver	height.
Noody Vine Stratum (Plot size: 30')		- 10tai 00	VOI	
l				
2				
3				Hydrophytic Vegetation
				Present? Yes No/
4.				10000000

SOIL Sampling Point: wase026_u

Profile Desc	cription: (Describe t	to the dep	th needed t	o docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	Matrix				x Features					
(inches)	Color (moist)	<u>%</u>	Color (m	OISt)	%	Type'	_Loc ²	Texture	Remarks	
0-12	7.5YR 3/2	100						_SCL_		
12-20	7.5YR 3/4	95	<u>7.5YR</u>	5/6	5	C	_M_	SCL	<u>Distinct redox concentrations</u>	
						'				
-			-							
						-				
			-						·	
¹ Type: C=C	oncentration, D=Depl	etion, RM	=Reduced M	atrix, MS	S=Masked	I Sand Gr	ains.	² Locatio	n: PL=Pore Lining, M=Matrix.	
Hydric Soil		,		,				Indicators	s for Problematic Hydric Soils ³ :	
Histosol			-		w Surface	(S8) (LR	R R,		Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2) istic (A3)			A 149B) ark Surfa		RR R. M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4)				/lineral (F1			Dark Surface (S7) (LRR K, L)		
	d Layers (A5)	(044)		-	Matrix (F2)			alue Below Surface (S8) (LRR K, L)	
	d Below Dark Surface ark Surface (A12)	e (A11)		ed Matrix Dark Sui	rface (F6)				Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R)	
	Mucky Mineral (S1)				Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	Gleyed Matrix (S4)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5) I Matrix (S6)							Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	rface (S7) (LRR R, M	ILRA 149	В)						(Explain in Remarks)	
³ Indicators o	f hydrophytic vegetati	ion and w	etland hydrol	ogy mus	st be prese	ent, unles	s disturbed	or problemati	ic.	
Restrictive	Layer (if observed):				<u>-</u>			-		
Type:										
	ches):							Hydric Soi	I Present? Yes No✓	
Remarks:	ators of budric	coile v	oro obc	orvod						
INO INGICA	ators of hydric	SOIIS V	vere obse	erveu.						



wase026_u_S



wase026_u_W

Project/Site: Line 5 Relocation Project	City/County: A	shland	Sampling Date: 2019-09-28
Applicant/Owner: Enbridge		State: WI	Sampling Point: wase025e_w1
Investigator(s): ARK/KDF	Section, Townsh	nip, Range: <u>044N-002W-0</u>)7
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Tula-Wormet-Gogebic			
Are climatic / hydrologic conditions on the site typic	cal for this time of year? Yes	No (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	oresent? Yes ✓ No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Attach sit	e map showing sampling po	oint locations, transects	, important features, etc.
	<u> </u>	mpled Area Wetland? Yes <u>√</u>	No
	<u> </u>		
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here of		tional Wetland Site ID:	
Wet meadow in a utility corridor.	Part of a wetland comple	x that includes foresto	ed wetland.
-	•		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; of	heck all that apply)	Surface Soil	Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pat	tterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Li	nes (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season	Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Buri	rows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Livin	g Roots (C3) Saturation Vi	sible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)		tressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled		· ·
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aqui	
	Other (Explain in Remarks)	Microtopogra	
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D5)
	✓ Depth (inches):		
	✓ Depth (inches):	I	
	✓ Depth (inches):		t? Yes <u>√</u> No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous inspe	ections), if available:	
Remarks:			
Seasonally saturated recharge w	etland.		

Cover	Dominant Species?	Status	Dominance Test Number of Domina That Are OBL, FA Total Number of E Species Across A Percent of Domina	ant Species CW, or FAI Dominant Il Strata:	C:	3	, ,
			That Are OBL, FA Total Number of E Species Across A Percent of Domina	CW, or FA	C:		, ,
			Species Across A Percent of Domina	II Strata:		3	(B)
			Percent of Domina			3	(B)
				ant Snacias			(D)
						00.00	
			That Are OBL, FA	CW, or FA	C: <u>1</u>	00.00	(A/B
			Prevalence Index	workshee	et:		
			Total % Cove	r of:	Mu	ltiply by:	_
_0=	= Total Cov	/er					
<u> 15</u>	<u>Y</u>	<u>FAC</u>	-				
			*				
			Prevalence	Index = B/	A =	1.39	
			Hydrophytic Veg	etation Inc	dicators:		
			1	-		getation	
<u>15</u> :	= Total Cov	/er					
						rovido our	nortin
50	<u>Y</u>	OBL	data in Re	marks or o	ations (F n a sepai	rate sheet)	ропп
35	Y	OBL	Problematic H	Hydrophytic	Vegetat	ion¹ (Expla	in)
10	_N_	FACW	1				
	N	FACW					nust
	N						
	N	OBL		_			
							amete
						_	DLI
							вн
			Herb – All herbac	eous (non-	a (vboow	lants, rega	rdless
			Woody vines – A	ll woody vir	nes great	ter than 3.2	28 ft in
115	= Total Cov	/er	height.				
			Hydrophytic				
			Vegetation				
_	= Total Cov	·or	Present?	Yes	No	·——	
	15 15 50 35 10 5 2 2 1	0 = Total Cov 15 Y 15 = Total Cov 50 Y 35 Y 10 N 5 N 5 N 2 N 1 N 115 = Total Cov	0 = Total Cover 15	O = Total Cover OBL species FACW species FACW species FACU species FA	O = Total Cover OBL species 95 FACW species 19 FAC species 0 UPL species 0 Column Totals: 130 Prevalence Index = B/A Hydrophytic Vegetation Index 1 - Rapid Test for Hydrop 2 - Dominance Test is 54 3 - Prevalence Index is 5 4 - Morphological Adapte data in Remarks or or a 50 N OBL N FACW N FACW N FACW Definitions of Vegetation S N OBL N FACW	OBL species 95 x 1 = FACW species 19 x 2 = FAC species 16 x 3 = FACU species 0 x 4 = UPL species 0 x 5 = Column Totals: 130 (A) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation Indicators: 2 - Dominance Test is >50%	Description Description

SOIL Sampling Point: wase025e_w1

Profile Desc	cription: (Describe t	o the de	pth needed	to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth	Matrix	0/			x Feature	S1	. 2	- .	5	
(inches)	Color (moist) 10YR 3/1	<u>%</u> _98			<u>%</u>	Type ¹	Loc ²	<u>Texture</u>	Remarks Prominent redex concentrations	
0-6									Prominent redox concentrations	
6-10	10YR 3/2		7.5YR		_ 5	<u>C</u>	_M_	CL	Distinct redox concentrations	
10-20	7.5YR 3/3	_98	<u>7.5YR</u>	4/6		_ <u>C</u> _	_M_	SCL		
										
	oncentration, D=Deple	etion, RM	1=Reduced N	Matrix, MS	S=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.	
Hydric Soil			Dobaco	lua Dalau	v Curtoso	(Co) (I DI	D D		s for Problematic Hydric Soils ³ :	
Histosol Histic E	pipedon (A2)		-	ilue belov R A 149B)	w Surface	(56) (LKI	ĸκ,		Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)	
Black H	istic (A3)						LRA 149B)	5 cm	Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4) d Layers (A5)			-	/lineral (F Matrix (F2		(, L)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)		
	d Below Dark Surface	(A11)		ed Matrix		.)		Thin Dark Surface (S9) (LRR K, L)		
	ark Surface (A12)				rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)		
	Mucky Mineral (S1) Bleyed Matrix (S4)			ed Dark S Depress	Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)		Nedox	рергезз	10113 (1 0)			Red Parent Material (F21)		
Stripped	Matrix (S6)							Very Shallow Dark Surface (TF12)		
Dark Su	rface (S7) (LRR R, M	LRA 149	9B)					Other	(Explain in Remarks)	
	f hydrophytic vegetati	on and w	etland hydro	logy mus	t be prese	ent, unles	s disturbed	or problemati	c.	
	Layer (if observed):									
Type:								Hydric Soil Present? Yes ✓ No		
	ches):							nyaric Soi	resent? resv NO	
Remarks:	th redox.									
Loan w	iii iodox.									



wase025e_w1_NW



wase025e_w1_SE

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-09-30
Applicant/Owner: Enbridge	State: WI Sampling Point: wase025e_w2
Investigator(s): ARK/KDF	Section, Township, Range: 044N-002W-07
	Local relief (concave, convex, none): Concave Slope (%): 0-2%
	75 Long: <u>-90.656543</u> Datum: <u>WGS84</u>
	nro complex, 0 to 18 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of	
	tly disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally p	
SUMMARY OF FINDINGS – Attach site map showing	ng sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes✓ No	
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate rep	
Wet meadow in a utility corridor. Further distu	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	
Surface Water (A1) Water-Staine	
✓ High Water Table (A2) Aquatic Faun	
✓ Saturation (A3) Marl Deposits	
Water Marks (B1) Hydrogen Su	
	zospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) Reduced Iron (C4) Stunted or Stressed Plants (D1)
<u> </u>	Reduced from (C4) Stuffled of Stressed Plants (D1) Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck St	
Indit Deposits (B3) Thirt Mack St Inundation Visible on Aerial Imagery (B7) Other (Explain	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No ✓ Depth (inche	es):
Water Table Present? Yes ✓ No Depth (inche	
Saturation Present? Yes No Depth (inche	·
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pho	ntoe previous inspections) if available:
Describe Recorded Data (Stream gauge, monitoring well, aerial pric	otos, previous inspections), ii available.
Remarks:	
Seasonally saturated wetland associated with	i a perenniai stream.

EGETATION – Use scientific names of plants				Sampling Point: wase025e_w2			
Tree Stratum (Plot size:30')		Dominant Species?		Dominance Test worksheet:			
·		-		Number of Dominant Species That Are OBL, FACW, or FAC: (A)			
				Total Number of Dominant			
k				Species Across All Strata: (B)			
k				Percent of Dominant Species			
5				That Are OBL, FACW, or FAC: 100.00 (A/B)			
5			· ——	Prevalence Index worksheet:			
		·		Total % Cover of: Multiply by:			
	0	= Total Co	ver	OBL species 7 x 1 = 7			
Sapling/Shrub Stratum (Plot size:)				FACW species 97 x 2 = 194			
. <u>Rubus idaeus</u>	5	Y	FAC	FAC species 5 x 3 = 15			
2				FACU species 0 x 4 = 0			
3				UPL species 0 x 5 = 0 Column Totals: 109 (A) 216 (B)			
l							
i				Prevalence Index = B/A = 1.98			
S				Hydrophytic Vegetation Indicators:			
7				1 - Rapid Test for Hydrophytic Vegetation			
		= Total Co		∠ 2 - Dominance Test is >50%			
Herb Stratum (Plot size:5')				✓ 3 - Prevalence Index is ≤3.0 ¹			
1. <u>Phalaris arundinacea</u>	90	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
2. <u>Glyceria canadensis</u>		N	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)			
3. <u>Verbena hastata</u>		N	FACW				
4. <u>Scirpus cyperinus</u>		N	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
5. <u>Onoclea sensibilis</u>			FACW				
5. <u>Solidago gigantea</u>			FACW	Definitions of Vegetation Strata:			
7. <u>Lysimachia ciliata</u>			FACW	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
3							
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
10.				Herb – All herbaceous (non-woody) plants, regardless			
11				of size, and woody plants less than 3.28 ft tall.			
12.				Woody vines – All woody vines greater than 3.28 ft in			
	104	= Total Co	ver	height.			
Noody Vine Stratum (Plot size:30')	104	= 10tal 00	VCI				
1							
2							
3				Hydrophytic Vegetation			
4				Present? Yes _ ✓ No			
	0	= Total Co	ver				

SOIL Sampling Point: wase025e_w2

Profile Desc	ription: (D	escribe t	o the de	oth needed	to docur	nent the	indicator	or confirm	the absence	e of indicators.)	
Depth (in the se)	Calar (Matrix	0/	Calar (a		x Feature	S1	1 2	Tauduma	Damada	
(inches)	Color (I		100	Color (r	noist)	%	_Type ¹	Loc ²	Texture SL	Remarks	
				40VD	E / A			N.4		Durania ant va day acceptantiana	
2-4	<u>5YR</u>	3/1	95	10YR		5	<u> </u>	_M_	SCL	Prominent redox concentrations	
4-15	5YR	3/1	95	<u>5YR</u>	3/4	5	_ <u>C</u> _	<u> </u>	SCL	Distinct redox concentrations	
15-20	<u>10YR</u>	2/1	100	-		· 			SCL		
				-							
						·					
									-		
							· ·				
¹ Type: C=Co	ncentration	n D-Denl	etion RM	-Reduced M	Matrix MS	S-Masker	Sand Gr	ains	² l ocatio	n: PL=Pore Lining, M=Matrix.	
Hydric Soil I			Ction, raiv	<u> </u>	viatrix, ivic	J-Masket	d Garia Gi	ans.		s for Problematic Hydric Soils ³ :	
Histosol				-		w Surface	(S8) (LR	R R,		Muck (A10) (LRR K, L, MLRA 149B)	
Histic Ep	oipedon (A2 stic (A3)	2)			RA 149B) Dark Surfa		_RR R. M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)	
Hydroge	Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L)							Dark Surface (S7) (LRR K, L)			
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3)								Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)			
	ark Surface		(// (/ (/ (/ (/ (/ (/ (/ (/ (/ (/ (/ (/			rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)		
_	lucky Mine					Surface (F	7)		Piedmont Floodplain Soils (F19) (MLRA 149B)		
	leyed Matr edox (S5)	ıx (S4)		Redox	Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
_	Matrix (S6))							Very Shallow Dark Surface (TF12)		
Dark Sui	rface (S7) (LRR R, M	ILRA 149	B)					Other	(Explain in Remarks)	
³ Indicators of	hydrophyti	ic vegetati	ion and w	etland hydro	ology mus	st be pres	ent, unles	s disturbed	or problemati	ic.	
Restrictive L	ayer (if ob	served):									
Type:											
	ches):								Hydric Soi	I Present? Yes No	
Remarks: Sandy loa	am with	redov									
Carray 10	aiii witi	ITEUUX	•								



wase025e_w2_N



wase025e_w2_W

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: <u>2019-09-27</u>
Applicant/Owner: Enbridge			
Investigator(s): ARK/KDG	Section, Township,	Range: 044N-002W-	07
Landform (hillslope, terrace, etc.): Depression Subregion (LRR or MLRA): Northcentral Forests Lat: 46.36	Local relief (concave, o	convex, none): Concave	Slope (%): <u>0-2%</u>
Soil Map Unit Name: Tula-Wormet-Gogebic complex,	0 to 6 percent slopes	, very stony NWI classifi	cation:
Are climatic / hydrologic conditions on the site typical for this tin	ne of year? Yes <u>√</u> N	o (If no, explain in F	Remarks.)
Are Vegetation, Soil, or Hydrology sign			
Are Vegetation, Soil, or Hydrology natu	-	f needed, explain any answe	
SUMMARY OF FINDINGS - Attach site map she	owing sampling poir	nt locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No _ Hydric Soil Present? Yes ✓ No _ Wetland Hydrology Present? Yes ✓ No _ Remarks: (Explain alternative procedures here or in a separa	within a We	oled Area otland? Yes✓ onal Wetland Site ID:	
Young stand of trees in a disturbed wetland wetland along perennial stream sase014p with upland point wase024_u.			
HYDROLOGY			
Wetland Hydrology Indicators:			ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that		Surface Soil	
	Stained Leaves (B9)	Drainage Pa	
	Fauna (B13)	Moss Trim L	Water Table (C2)
	eposits (B15) en Sulfide Odor (C1)	Dry-Season Crayfish Bu	
	d Rhizospheres on Living R		isible on Aerial Imagery (C9)
	ce of Reduced Iron (C4)		Stressed Plants (D1)
	Iron Reduction in Tilled Soi		
	uck Surface (C7)	Shallow Aqu	
	Explain in Remarks)	 .	aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	
Field Observations:			
Surface Water Present? Yes No ✓ _ Depth	(inches):		
Water Table Present? Yes No _ ✓ _ Depth	(inches):		
Saturation Present? Yes No _✓ Depth (includes capillary fringe)	(inches):	Wetland Hydrology Prese	nt? Yes <u>√</u> No
Describe Recorded Data (stream gauge, monitoring well, aeri	al photos, previous inspecti	ons), if available:	
Parada			
Remarks: Seasonally saturated wetland, partially dr	iven by groundwat	er discharge. The r	portion that borders
perennial stream sase014p is inundated a	, ,	or dicordings. The	
	and neavy rain.		
1			

/EGETATION – Use scientific names of plants	•			Sampling Point: wase025f_w
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. <u>Populus tremuloides</u>	50	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
z. <u>Betula papyrifera</u>				
3				Total Number of Dominant Species Across All Strata: 4 (B)
4.				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
0 11 10 1 0 1 1 10 1 1 1 1 1 1 1 1 1 1		= Total Co	/er	OBL species
Sapling/Shrub Stratum (Plot size: 15')	4.5		E40	FAC species x 2 =4 FAC species x 3 = 231
1. <u>Rubus idaeus</u>				FACU species x 4 = 80
2. <u>Acer rubrum</u>				UPL species 0 x 5 = 0
3. <u>Quercus rubra</u>	5	N	<u>FACU</u>	Column Totals: <u>169</u> (A) <u>385</u> (B)
4. <u>Corylus cornuta</u>	5	N	<u>FACU</u>	
5				Prevalence Index = B/A = 2.28
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov		✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				y 3 - Prevalence Index is ≤3.0¹ 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
1. <u>Calamagrostis canadensis</u>	65	Υ	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Scirpus cyperinus</u>			OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
			FACU	
3			FACW	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Doellingeria umbellata</u>				be present, unless disturbed or problematic.
5. <u>Athyrium angustum</u>			<u>FAC</u>	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	79	= Total Co	/er	height.
Woody Vine Stratum (Plot size:)				
1				
2.				
3				Hydrophytic
4.				Vegetation
T	_			Present? Yes ✓ No
	U	= Total Cov	/ei	

SOIL Sampling Point: wase025f_w

Profile Desc	ription: (E	Describe t	o the dep	th needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)	
Depth (inches)	Color (Matrix	%	Color (r		x Features %	Type ¹	Loc ²	Texture	Remarks	
0-2				COIOI (I	noist)		Type	LOC	M	Remarks	
	7.5YR		100		4/0	40		- N 4			
2-9	7.5YR	3/2	90	5YR	4/6_	10	<u>C</u>	_IVI_	_MMI_	Prominent redox concentrations	
9-16	5YR	3/4	_98_	5YR	4/6	_2_	<u> </u>	_M_	_MMI_		
										- -	
										· 	
										·	
¹ Type: C=C			etion, RM:	=Reduced I	Matrix, MS	S=Masked	Sand Gra	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :	
Hydric Soil Histosol				Polyva	alue Belov	v Surface	(S8) (I RI	2 R		Muck (A10) (LRR K, L, MLRA 149B)	
	oipedon (A2	2)			RA 149B)		(00) (LIKI	ν ιν,		t Prairie Redox (A16) (LRR K, L, R)	
	stic (A3)							LRA 149B)		Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A d Layers (A				y Mucky M y Gleyed N			, L)		Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L)	
Deplete	d Below Da	rk Surface	(A11)	Deple	ted Matrix	(F3)	,			Dark Surface (S9) (LRR K, L)	
	ark Surface				Dark Sur		· - 7\		Iron-Manganese Masses (F12) (LRR K, L, R)		
-	Mucky Mine Gleyed Matr				ted Dark S Depressi		7)		Piedmont Floodplain Soils (F19) (MLRA 149B)Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
Sandy F	Redox (S5)				·	, ,			Red F	Parent Material (F21)	
	Matrix (S6		I D A 440I	3 \						Shallow Dark Surface (TF12) (Explain in Remarks)	
Dark Su	rface (S7) (LKK K, IVI	LKA 1491)					Other	(Explain in Remarks)	
			on and we	etland hydro	ology mus	t be prese	ent, unless	s disturbed	or problemati	ic.	
Restrictive		served):									
Type: <u>ro</u>									Hydric Soil Present? Yes ✓ No		
Remarks:	ches): <u>16</u>								Tiyunc 30i	111636III: 163 <u>v</u> NO	
	er muck	v mine	ral soi	with re	dox. P	rofile r	ot san	npled b	elow 16 i	nches due to presence of	
rock.		,								, and the second	



wase025f_w_N



wase025f_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name:	Evaluator(s):	
Line 5 Relocation Project	KDF/ARK	
File #:	Date of visit(s):	
wase025	09/27/2019	
Location:	Ecological Landsca	ipe:
PLSS: <u>044N-002W-07</u>	North Central Forest	
	North Central Forest	
Lat: <u>46.30484</u> Long: <u>-90.654852</u>	Watershed:	
	LS14, Upper Bad River	
County: Ashland Town/City/Village: Morse town		
SITE DESCRIPTION		
Soils:	WWI Class:	
Mapped Type(s):	S3/E1K, T3K	
5171B Tula-Wormet-Gogebic complex, 5172C Gogebic, very	Wetland Type(s):	
stony-Pence, very stony-Cathro complex	PFO/PEM - hardy	vood swamp/fresh wet meadow
Field Verified:		•
Series not verified. In the forested component soils were a	Wetland Size:	Wetland Area Impacted
muck over mucky mineral. In the emergent component soils	1.89	1.89
were a clay loam over sandy clay loam, as well as a sandy	Vegetation:	
loam over sandy clay loam.	Plant Community D	escription(s):
Hydrology:	Within the forested compor	nent, Populus tremuloides and Fraxinus nigra
The hydrologic regime is saturated with recharge		b layers. Glyceria canadensis, Scirpus cyperinus, prostis canadensis dominate the herbaceous layer.
hydrology.		imponents, Scirpus cyperinus, Calamagrostis
11.7 d. 0.097.		linacea, and Solidago canadensis dominate the
	herbaceous layer.	

SIT	E MAP	 	 	

SECTION 1: Functional Value Assessment

HU Y/N Potential Human Use Values: recreation, culture, education, science, natural scenic beauty 1 N Y Used for recreation (funting, biding, liking, etc.). List: Hunting, biding 2 N N Used for educational or scientific purposes 3 Y Y Visually or physically ocessible to public 4 Y Y Y Visually or physically ocessible to public 4 Y Y Y Visually or physically ocessible to public 4 Y Y Y Visually or physically ocessible to public 5 N N Supports or provides habitat for endangered, threatened or special concern species In or adjacent to RED FLAG areas In or adjacent to archaeological or cultural resource site Wildfier Habitat Wildfier				Functional Value Assessment
2 N N Used for educational or scientific purposes 3 Y Y V Susually or physically accessible to public 4 Y Y V Assthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List 6 N N Suspens or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Widtlife Habitat 1 Y Wetland and contiguous habitat >10 acres 2 Y Y Sor more stratal present (- 10% cover) 3 N N Within or adjacent to habitat cornior or established wildlife habitat area 4 Y Y 100 m buffer – natural land cover ≥50%(south) 75% (north) inlact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh.shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI Ali-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephermeral pond with water present ≥ 45 days 110 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 112 N N Provides habitat scarce in the area (urban, agricultural, etc.) 113 Y Y Wetland is connected or configuous with perennial stream or lake 114 Y Y Wetland is connected or configuous with perennial stream or lake 115 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 116 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 117 Y Y Wetland is connected or configuous with perennial stream or lake 118 Y Y Wetland is connected or configuous with perennial stream or lake 119 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 110 Y Y Wetland is connected or configuous with perennial fream or lake 111 Y Y Wetland is connected or configuous with perennial stream or lake 112 N N N N Natural Heritage Inventory (NHI-I) isled aquatic species within aquatic system 113 Y Y Wetland is connected or configuous with perennial stream or lake 114				
3	\vdash	N	Υ	
Y	2	N	N	Used for educational or scientific purposes
S	3	Υ	Υ	Visually or physically accessible to public
N N List:	4	Υ	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
N N List:	_			In or adjacent to RED FLAG areas
In or adjacent to archaeological or cultural resource site Wildlifer Habitat	5	N	N	· · · · · · · · · · · · · · · · · · ·
In or adjacent to archaeological or cultural resource site Wildlifer Habitat	6	N	N	Supports or provides habitat for endangered, threatened or special concern species
Well	7			
1	WH			
2	h	Υ	Y	
3			1	
4 Y Y 100 m buffer − natural land cover ≥60%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex.etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI Ali-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA FA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Y water levels or high flows – if no, not applicable 2 N Y Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 4 N N Evidence of flashy hydrology 5 N N Impervious surfaces cover >10% of land surface within the watershed N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 9 N N N Within a watershed with <10% wetland 1 Y Y Dense, persistent vegetation 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland	$\overline{}$			
5 N N Cocurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 110 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 111 N N Seasonally exposed mudflats present 112 N N Provides habitat scarce in the area (urban, agricultural, etc.) 113 Provides habitat scarce in the area (urban, agricultural, etc.) 114 P Y Wetland is connected or contiguous with perennial stream or lake 115 P Y Y Standing water provides habitat for amphibians and aquatic invertebrates 116 P Y Y Standing water provides habitat for amphibians and aquatic invertebrates 117 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 118 P Y Y Standing water provides habitat for amphibians and aquatic invertebrates 119 P N Y Vegetation is inundated in spring 120 P N Y Vegetation is inundated in spring 131 P Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 142 P N Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable P P Otential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 133 P Y Densely rooted emergent or woody vegetation 144 P Y B Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 145 P Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 146 P Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 147 P N N N Evidence of flashy hydrology 148 P Y Y Basin wetland is NOT channelized 159 N N P Point or non-point source inflow 160 N N Impervious surfaces cover >10% of land surface within the watershed 170 N N N Within a watershed w	$\overline{}$			
Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) Variable Va			1	
N				Interspersion of habitat structure (hemi-marsh shruh/emergent, wetland/unland complex etc.)
8 N Y plans 8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FAA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Y Y Densely rooted emergent or woody vegetation 3 Y Y Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 4 N N Point or non-point source inflow 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 Y Y Dense, persistent vegetation 5 Y Y Water flow through wetland is NOT channelized 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 Y Y Dense, persistent vegetation 9 N N Natural land cover in 100m buffer area < 50% 9 Groundwater Processes 1 Y Y Springs, seeps or indicators of groundwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs		ĭ	Y	
8 N Y Part of a large habitat block that supports area sensitive species 9 N Y Ephemeral pond with water present ≥ 45 days 10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 Y Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N Evidence of flashy hydrology 5 N N Point or non-point source inflow 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Guality Protection 1 Y Y Dense, persistent vegetation 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 8 Y Y Dense, persistent vegetation 9 N N Natural land cover in 100m buffer area < 50% Groundwater Processes 1 Y Y Springs, seeps or indicators of groundwater wetland 3 Y Y Wetland remains saturated for an extended time period with no additional water inputs	7	N	Υ	
9	0			
10 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA FA Fish and Aquatic Life Habitat 1 Y Y Wetland is connected or contiguous with perennial stream or lake 2 Y Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N Y Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 Y Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 Y Y Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 Y Y Water flow through wetland is NOT channelized 3 Y Y Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 Y Y Dense, persistent vegetation 4 Y Y Water flow through wetland is NOT channelized 4 Y Y Water flow through wetland is NOT channelized 5 Y Y Basin wetland associated with a lake or stream 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 8 Y Y Dense, persistent vegetation 9 N N Natural land cover in 100m buffer area < 50% 9 Groundwater Processes 1 Y Y Springs, seeps or indicators of groundwater present 2 N N Wetland remains saturated for an extended time period with no additional water inputs			1	
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5 N N Wetland is within a wellhead protection area		N	Υ	
	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: located on private land, ATV trail located nearby WH-6: PEM/PFO wetland complex, associated with stream FA-2: shallow pockets of water present within the PFO WQ-1: closed basin, dense vegetation GW-4: soils in the forested peatland component are organic Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments Avian Herpetofauna, mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PFO	Abundant
Betula papyrifera			PFO	Uncommon
Rubus idaeus			PFO, PEM	Common
Acer rubrum			PFO	Common
Quercus rubra			PFO	Uncommon
Corylus cornuta			PFO	Uncommon
Calamagrostis canadensis			PFO, PEM	Abundant
Scirpus cyperinus			PFO, PEM	Abundant
Solidago altissima			PFO	Uncommon
Doellingeria umbellata			PFO, PEM	Uncommon
Athyrium angustum			PFO, PEM	Uncommon
Phalaris arundinacea			PEM	Abundant
Mentha arvensis			PEM	Uncommon
Eutrochium maculatum			PEM	Uncommon
Juncus effusus			PEM	Uncommon
Solidago gigantea			PEM	Uncommon
Glyceria canadensis			PEM	Uncommon
Verbena hastata			PEM	Uncommon
Onoclea sensibilis			PEM	Uncommon
Lysimachia ciliata			PEM	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The vegetation within the forested component is comprised of native species. The two emergent components are filled with disturbed species, and Phalaris arundinacea is very common.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
	Х				Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
	X		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
	Х		L	С	Agriculture – hay
					Agriculture – pasture
	Х		L	С	Roads or railroad
Х	Х		Н	U	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		Н	С	Cover of non-native and/or invasive species
	Х		L	U	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
	Х		L	U	Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland and surrounding area is primarily influenced by a utility corridor that runs above the PEM. The
surrounding area is also influenced by an ATV trail nearby. Invasive species are present in the utility corridor.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values		1			
Wildlife Habitat			√		
Fish and Aquatic Life Habitat		✓			
Shoreline Protection		✓			
Flood and Stormwater Storage			√		
Water Quality Protection			√		
Groundwater Processes			√		

FUNCTION	RATIONALE
Floristic Integrity	Somewhat diverse assemblage of native plant species, but the utility corridor is disturbed and reed canary grass is problematic
Human Use Values	High aesthetic but no public access to private land. Private landowners may use for hunting or other uses
Wildlife Habitat	Multiple strata, diverse habitats (PEM/PFO complex), shallow standing water present within PFO
Fish and Aquatic Life Habitat	Shallow standing water to support aquatic invertebrates, would not support fish. The wetland is associated with a perennial stream
Shoreline Protection	Densely rooted vegetation
Flood and Stormwater Storage	Closed basin, dense vegetation
Water Quality Protection	See above, vegetation associated with stream
Groundwater Processes	Recharge hydrology, springs and seeps present

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: <u>2019-09-3(</u>
Applicant/Owner: Enbridge			
Investigator(s): ARK/KDF	Section, Township	o, Range: 044N-002W-	-07
Landform (hillslope, terrace, etc.): Crest			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.30			
Soil Map Unit Name: Tula-Wormet-Gogebic complex,			
		•	· ·
Are climatic / hydrologic conditions on the site typical for this time.			
Are Vegetation, Soil, or Hydrology signi			
Are Vegetation, Soil, or Hydrology natu			
SUMMARY OF FINDINGS – Attach site map sho	owing sampling poi	nt locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sam	-	
Hydric Soil Present? Yes No _	within a W	/etland? Yes	No <u>√</u>
Wetland Hydrology Present? Yes No _		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separa Mesic forest location, on a ridge separatin	te report.)	This unland noint is	shared with wetland
wase025.	ig two wettarius.	i ilis upianu point is	Shared with wetland
Wa36025.			
HYDROLOGY			
Wetland Hydrology Indicators:		•	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all that		Surface So	
	Stained Leaves (B9)	Drainage P	
	Fauna (B13) posits (B15)		Lines (B16)
	en Sulfide Odor (C1)		n Water Table (C2) urrows (C8)
	d Rhizospheres on Living		Visible on Aerial Imagery (C9)
	ce of Reduced Iron (C4)		Stressed Plants (D1)
	Iron Reduction in Tilled So		ic Position (D2)
<u> </u>	ıck Surface (C7)	Shallow Aq	
	Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	,		al Test (D5)
Field Observations:			
Surface Water Present? Yes No ✓ _ Depth	(inches):		
Water Table Present? Yes No ✓ _ Depth	(inches):		
Saturation Present? Yes No _✓ Depth	(inches):	Wetland Hydrology Prese	ent? Yes No <u>√</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspec	tions) if available:	
Bosonibe Nessoraea Bata (Stream gauge, mormoning well, acit	ar priotos, proviodo mopos	nonoj, ii avaliabio.	
Remarks: No indicators of wetland hydrology were of	phearwood		
Two malcalors of welland flydrology were c	noseiveu.		
			l

				Sampling Point: <u>wase024_u</u>
<u>Tree Stratum</u> (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Tsuga canadensis</u>			FACU	Number of Dominant Species That Are OBL, FACW, or FAC:3(A)
2. Abies balsamea				
3. Acer saccharum				Total Number of Dominant Species Across All Strata: 5 (B)
4. <u>Populus tremuloides</u>				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 60.00 (A/B)
6				Prevalence Index worksheet:
7	_			Total % Cover of: Multiply by:
	90	= Total Co	ver	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size: 15')				FACW species0 x 2 =0
1. <u>Acer rubrum</u>	5	Y	FAC	FAC species <u>52</u> x 3 = <u>156</u>
2				FACU species <u>81</u> x 4 = <u>324</u>
3				UPL species
4.				Column Totals:133 (A)480 (B)
*				Prevalence Index = B/A =3.61
				Hydrophytic Vegetation Indicators:
5				1 - Rapid Test for Hydrophytic Vegetation
7				✓ 2 - Dominance Test is >50%
	5	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting
1. <u>Pteridium aquilinum</u>		<u>Y</u>	<u>FACU</u>	data in Remarks or on a separate sheet)
2. <u>Clintonia borealis</u>	10	Y	<u>FAC</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Dendrolycopodium dendroideum</u>	5	N	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Cornus canadensis</u>	2	N	FAC	be present, unless disturbed or problematic.
5. <i>Maianthemum canadense</i>	1	N	<u>FACU</u>	Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				
		-	-	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11	_			Meaduring All woods vines greater than 2.20 ft in
12				Woody vines – All woody vines greater than 3.28 ft in height.
	38	= Total Co	ver	
Woody Vine Stratum (Plot size: 30')				
1				
2		-		
3				Hydrophytic
				Vegetation Present? Yes ✓ No
4				

SOIL Sampling Point: wase024_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence o	f indicators.)
Depth	Matrix Color (moist)	<u></u> %	Redo Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks
(inches) 0-4	10YR 2/1	100	Color (moist)	70	_ rype	LUC	rexture	Remarks
4-12	5YR 4/3	100					SCL	
	7.5YR 3/4						SCL	
Hydric Soil		letion, RM=					Indicators for	PL=Pore Lining, M=Matrix. or Problematic Hydric Soils³:
Black H Hydroge Stratifie Deplete Thick D Sandy N Sandy F Strippee Dark Su	i (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, No	ILRA 149B; ion and wet		ice (S9) (L dineral (F1 Matrix (F2 (F3) rface (F6) Surface (F ions (F8)	.RR R, MI) (LRR K)	.RA 149B) , L)	Coast P 5 cm Mu Dark Su Polyvalu Thin Da Iron-Mai Piedmoi Mesic S Red Par Very Sh Other (E	ack (A10) (LRR K, L, MLRA 149B) rairie Redox (A16) (LRR K, L, R) acky Peat or Peat (S3) (LRR K, L, R) rface (S7) (LRR K, L) ae Below Surface (S8) (LRR K, L) rk Surface (S9) (LRR K, L) anganese Masses (F12) (LRR K, L, R) at Floodplain Soils (F19) (MLRA 149B) podic (TA6) (MLRA 144A, 145, 149B) rent Material (F21) allow Dark Surface (TF12) explain in Remarks)
Type:	Layer (II observed).							
	ches):						Hydric Soil P	Present? Yes No/_
Remarks: No indica	ators of hydric	soils we	ere observed					



wase024_u_N



wase024_u_S

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling Date: <u>2019-09-3(</u>	
Applicant/Owner: Enbridge				
Investigator(s): ARK/KDF	Section, Towns	ship, Range: <u>044N-002W</u>	-07	
Landform (hillslope, terrace, etc.): Side slope				
Subregion (LRR or MLRA): Northcentral Forests Lat	46 305463	Long: -90.656394	Datum: WGS84	
Soil Map Unit Name: Gogebic, very stony-Pence, ve				
Are climatic / hydrologic conditions on the site typical f		<u> </u>		
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach site n	nap showing sampling p	oint locations, transect	ts, important features, etc.	
Hydrophytic Vegetation Present? Yes✓		Sampled Area		
	NO <u></u> _	a Wetland? Yes	No/_	
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or in		ptional Wetland Site ID:		
Herbaceous vegetation in a utility co		,		
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)	
Primary Indicators (minimum of one is required; chec	k all that apply)	Surface So		
	Water-Stained Leaves (B9)	Drainage P		
	Aquatic Fauna (B13)	Moss Trim Lines (B16)		
	Marl Deposits (B15) Hydrogen Sulfide Odor (C1)		n Water Table (C2) urrows (C8)	
	Oxidized Rhizospheres on Livi		Visible on Aerial Imagery (C9)	
	Presence of Reduced Iron (C4		Stressed Plants (D1)	
	Recent Iron Reduction in Tilled	· —	ic Position (D2)	
	Thin Muck Surface (C7)	Shallow Ac	· · ·	
	Other (Explain in Remarks)		graphic Relief (D4)	
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutr	al Test (D5)	
Field Observations:				
Surface Water Present? Yes No✓	Depth (inches):	_		
	Depth (inches):			
Saturation Present? Yes No _✓_ (includes capillary fringe)	_ Depth (inches):	Wetland Hydrology Prese	ent? Yes No <u>√</u>	
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous insp	pections), if available:		
Remarks:				
No indicators of wetland hydrology	were observed.			
,				

Tree Stratum (Plot size:30')				
Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 57.14 (A/B)
5				That Ale OBL, FACW, OF FAC (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	0	= Total Co	ver	OBL species
Sapling/Shrub Stratum (Plot size: 15')				FACW species30 x 2 =60
1. <u>Pinus strobus</u>	1	N	<u>FACU</u>	FAC species0 x 3 =0 FACU species46 x 4 =184
2				UPL species
3	<u> </u>			Column Totals: <u>86</u> (A) <u>254</u> (B)
4				
5				Prevalence Index = B/A = 2.95
5	<u> </u>			Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')				✓ 3 - Prevalence Index is ≤3.0 ¹
1. <u>Fragaria virginiana</u>	15	Y	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Poa pratensis</u>		Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Solidago altissima</u>		Υ	FACU	
4. <u>Solidago gigantea</u>			FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Agrostis gigantea</u>		Y	FACW	Definitions of Vegetation Strata:
6. <u>Calamagrostis canadensis</u>		Y		
7. <u>Phalaris arundinacea</u>				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. <u>Phleum pratense</u>				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	85	= Total Co	vor	height.
Woody Vine Stratum (Plot size: 30')		= 10tai 00	VCI	
1				
3				
2.				Hydrophytic
3				Vegetation
				Vegetation Present? Yes No

SOIL Sampling Point: wase025_u2

Profile Des	cription: (D	escribe t	to the dep	oth needed	to docun	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth (inches)						Loc ²	Texture	Remarks		
0-3	7.5YR			5YR	5/8	5	С	M	SCL	Prominent redox concentrations
3-20	5YR	4/4		5YR		5	<u> </u>	M	SC	Prominent redox concentrations
	Concentration		etion, RM	=Reduced N	Matrix, MS	=Masked	Sand Gr	ains.		n: PL=Pore Lining, M=Matrix.
Hydric Soil Histoso				Polyva	alue Belov	v Surface	(S8) (I R I	R R		s for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B)
Black H Hydrog Stratifie Deplete Thick D Sandy I Sandy I Stripped Dark St	pipedon (A2 listic (A3) en Sulfide (A ed Layers (A5) ed Below Dan eark Surface Mucky Miner Gleyed Matri Redox (S5) d Matrix (S6) urface (S7) (I	(A4) (5) (ck Surface (A12) (al (S1) (x (S4) (LRR R, M	ILRA 149	Thin D Loamy Loamy Deplet Redox Redox	y Mucky M y Gleyed M ted Matrix c Dark Sur ted Dark S c Depressi	ce (S9) (L dineral (F1 Matrix (F2 (F3) face (F6) Surface (F dions (F8)) (LRR K) 7)		5 cm Dark Polyv Thin I Iron-N Piedn Mesic Red F Very	t Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L) Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B) Spodic (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
Restrictive	Layer (if ob	served):								
Type:										
Depth (ir	nches):								Hydric Soi	Il Present? Yes No✓_
No indic	ators of	hydric	soils w	vere obs	served.					



wase025_u2_E



wase025_u2_N

Project/Site: Line 5 Relocation Project	City/County: Ashl	and	Sampling Date: 2019-09-28
Applicant/Owner: Enbridge		State: WI	_ Sampling Point: wase028f_w
Investigator(s): ARK/KDG	Section, Township,	Range: 044N-002W-0	7
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46			
Soil Map Unit Name: Gogebic, very stony-Pence, very sto			
Are climatic / hydrologic conditions on the site typical for this	s time of year? Yes No	o (If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrologys	significantly disturbed? A	re "Normal Circumstances" p	resent? Yes No
Are Vegetation, Soil, or Hydrologyn	naturally problematic? (If	f needed, explain any answer	s in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing sampling poin	t locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes✓ N	O Is the Samp		
Hydric Soil Present? Yes ✓ N		tland? Yes <u>√</u>	No
Wetland Hydrology Present? Yes ✓ N	o If yes, option	nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a sep	parate report.)		
Hardwood swamp depression located v	vitnin a mesic nardwo	od forest.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all t	that apply)	•	
	er-Stained Leaves (B9)	Drainage Patt	
	atic Fauna (B13)	Moss Trim Lir	
	I Deposits (B15)		Vater Table (C2)
	rogen Sulfide Odor (C1)	Crayfish Burro	
	dized Rhizospheres on Living R	•	sible on Aerial Imagery (C9)
	sence of Reduced Iron (C4)		ressed Plants (D1)
	ent Iron Reduction in Tilled Soil		
	Muck Surface (C7)	Shallow Aquit	
<u> </u>	er (Explain in Remarks)	Microtopograp	
Sparsely Vegetated Concave Surface (B8)	, (=,	FAC-Neutral ⁻	
Field Observations:			. 551 (2-5)
Surface Water Present? Yes No ✓ Dep	pth (inches):		
	pth (inches):		
		Wetland Hydrology Present	? Yes <u>√</u> No
(includes capillary fringe)	dal abata - ana dana dana dana d		
Describe Recorded Data (stream gauge, monitoring well, a	aeriai pnotos, previous inspection	ons), if available:	
Remarks:			
Seasonally saturated recharge wetland	•		

	45 35	Y	Status FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC:7 (A)
Fraxinus pennsylvanica Acer rubrum Ulmus americana	45 35	Y	<u>FACW</u>	
2. Acer rubrum 3. Ulmus americana	35			
3. <u>Ulmus americana</u>			_FAC_	That Are OBL, I ACW, OF I AC.
		V		Total Number of Dominant Species Across All Strata: (B)
4. <u>Detula allegriarilerisis</u>				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 87.50 (A/B)
6				Prevalence Index worksheet:
7		= Total Co		
	107	= Total Co	ver	OBL species15 x 1 =15 FACW species84 x 2 =168
Sapling/Shrub Stratum (Plot size: 15')	_	V	E4011	FAC species x3 = 123
1. <u>Tilia americana</u>				FACU species5 x 4 =20
2				UPL species0 x 5 =0
3				Column Totals: <u>145</u> (A) <u>326</u> (B)
4			· ———	Dravelence Index D/A 2.25
5				Prevalence Index = B/A = 2.25
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
_	<u>5</u> :	= Total Co	ver	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01
Herb Stratum (Plot size:)				4 - Morphological Adaptations ¹ (Provide supporting
1. Glyceria striata	10	Y	OBL	data in Remarks or on a separate sheet)
2. Carex intumescens	5	Y	<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Iris versicolor</u>	5	Y	OBL	The disease of booking will and condend the dealers of the dealers.
4. Carex cristatella	5	Y	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Carex projecta</u>	2	N	FACW	Definitions of Vegetation Strata:
6. <u>Onoclea sensibilis</u>			FACW	
7. <u>Dryopteris intermedia</u>			FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. Osmunda claytoniana			FAC	Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10			· .	Herb – All herbaceous (non-woody) plants, regardless
11.			· .	of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	33	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')		- 10tai 00	VOI	
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes <u>√</u> No
	<u> </u>	= Total Co	ver	

SOIL Sampling Point: wase028f_w

Profile Desc	cription: (Describe	to the dep	oth needed	to docun	nent the in	ndicator	or confirm	the absence	of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Color (m		x Features %	Type ¹	Loc ²	Texture	Remarks	
0-2	10YR 2/1	90	5YR	4/4	10	C	M	SCL	Prominent redox concentrations	
2-10	10YR 4/1	90	5YR	4/6	10	С	M	SCL	Prominent redox concentrations	
10-20	10YR 4/4	90	7.5YR		10	С	M	CL		
¹Type: C=C Hydric Soil Histosol Histic E	oncentration, D=Depl Indicators: (A1) Dipedon (A2)		=Reduced N	Matrix, MS	S=Masked	(S8) (LR I	ains.	Indicators 2 cm N Coast	n: PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)	
 Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) ✓ Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 148) 			 Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) 					Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)		
	f hydrophytic vegetat Layer (if observed):		etland hydro	logy mus	t be prese	nt, unles	s disturbed o	or problemation	С.	
Type:	Layer (II Observed).									
Depth (in	ches):							Hydric Soil	Present? Yes/ No	
Remarks: Loam wi	th redox.									





wase028f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): KDF/ARK			
File #: wase028	Date of visit(s): 09/28/2019			
Location: PLSS: 044N-002W-07	Ecological Landsca North Central Forest	pe:		
Lat: <u>46.304428</u> Long: <u>-90.656107</u> County: <u>Ashland</u> Town/City/Village: <u>Morse town</u>	Watershed: LS14, Upper Bad River			
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class: N/A			
5172C Gogebic, very stony-Pence, very stony-Cathro complex, 5171B Tula-Wormet-Gogebic complex Field Verified:	Wetland Type(s): PFO - hardwood swamp			
Series not verified. Soils were a sandy clay loam over a clay loam.	Wetland Size: 0.06	Wetland Area Impacted 0.06		
Hydrology: The hydrologic regime is seasonally saturated with recharge hydrology.	Vegetation: Plant Community Description(s): The canopy is dominated by Fraxinus nigra and Acer rubrum. The shrub layer is dominated by Fraxinus nigra and Tilia americana. Glyceria striata and Carex intumescens dominate the herbaceous layer.			

SECTION 1: Functional Value Assessment

			Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	Ν	N	Used for educational or scientific purposes
3	Ν	N	Visually or physically accessible to public
4	N	Υ	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
_			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7			In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	N	N	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
	IN	l l	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
7	Ν	Υ	plans
8	N I	Υ	Part of a large habitat block that supports area sensitive species
9	N N	Y	Ephemeral pond with water present \geq 45 days
10			Standing water provides habitat for amphibians and aquatic invertebrates
-	N	Y	• 1
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	N	N	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N	N	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
			water levels or high flows – if no, not applicable
3	N	N	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Υ	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	Ν	Υ	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	Υ	Υ	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	Ν	N	Dense, persistent vegetation
6	Ν	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2			
	N	N	Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
3	Y	Y	Wetland remains saturated for an extended time period with no additional water inputs
<u>4</u> 5	N	N	Wetland soils are organic
1 2	Ν	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-4: area is aesthetically pleasing but degraded by earthworm activity WH-6: located near a wetland complex but separated by upland area WH-9: seasonally saturated with potential for ponding ST-3: degradation of herbaceous layer due to earthworm activity resulting in less dense vegetation cover Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed **Potential** Species/Habitat/Comments Avian, herpetofauna, mammals, insects Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	-			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus pennsylvanica			PFO	Common
Acer rubrum			PFO	Common
Ulmus americana			PFO	Common
Betula alleghaniensis			PFO	Uncommon
Tilia americana			PFO	Uncommon
Glyceria striata			PFO	Common
Carex intumescens			PFO	Uncommon
Iris versicolor			PFO	Uncommon
Carex cristatella			PFO	Uncommon
Carex projecta			PFO	Uncommon
Onoclea sensibilis			PFO	Uncommon
Dryopteris intermedia			PFO	Uncommon
Osmunda claytoniana			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The vegetation is comprised of native species expected within the plant community, with no observable invasive species present.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	Х		L	U	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V				0	Removal of herbaceous stratum – mowing,
X	X		M	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is primarily impacted by earthworm activity removing herbaceous vegetation. A utility corridor is present
outside of the wetland area.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage		✓			
Water Quality Protection		√			
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Native species, no invasives
Human Use Values	No recreational activities, private land with no public accessibility
Wildlife Habitat	Multiple strata represented, part of large habitat block
Fish and Aquatic Life Habitat	Potential standing water that could support aquatic invertebrates but would not support fish
Shoreline Protection	
Flood and Stormwater Storage	Closed basin but not densely vegetated
Water Quality Protection	See above
Groundwater Processes	Recharge hydrology

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Coun	y: Ashland	Sampling Date: 2019-09-28
_			e: WI Sampling Point: wase028_u
Investigator(s): ARK/KDF	Section, T	ownship, Range: 044N-	002W-07
Landform (hillslope, terrace, etc.): Backslope			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Gogebic, very stony-Pence			
Are climatic / hydrologic conditions on the site typic	al for this time of year? Yes	✓ No (If no, e	explain in Remarks.)
Are Vegetation, Soil, or Hydrology _			
Are Vegetation, Soil, or Hydrology _			
SUMMARY OF FINDINGS – Attach site			
		the Sampled Area	
		_	Yes No <u>√</u>
	NO		
Remarks: (Explain alternative procedures here o		es, optional Wetland Site ID):
HYDROLOGY Wetland Hydrology Indicators		Coop	dary Indicators (minimum of two required)
Wetland Hydrology Indicators:	hook all that apply)		dary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; c			urface Soil Cracks (B6)
	Water-Stained Leaves (B: Aquatic Fauna (B13)		rainage Patterns (B10) oss Trim Lines (B16)
	Marl Deposits (B15)		ry-Season Water Table (C2)
	Hydrogen Sulfide Odor (C		rayfish Burrows (C8)
	Oxidized Rhizospheres or		aturation Visible on Aerial Imagery (C9)
	Presence of Reduced Iron	- · · · · · · · · · · · · · · · · · · ·	cunted or Stressed Plants (D1)
	Recent Iron Reduction in	· ·	eomorphic Position (D2)
	Thin Muck Surface (C7)		nallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	s) Mi	icrotopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FA	AC-Neutral Test (D5)
Field Observations:			
	✓ Depth (inches):		
	✓ Depth (inches):		
Saturation Present? Yes No (includes capillary fringe)	✓ Depth (inches):	Wetland Hydrolo	ogy Present? Yes No✓
Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, previou	s inspections), if available:	
Demode			
Remarks: No indicators of wetland hydrolog	v were observed		
The management of mediana my areneg	,		

VEGETATION – Use scientific names of plants.

				Sampling Point: <u>wase028_u</u>
Tree Stratum (Plot size:30')	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. Acer saccharum			FACU	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2. Ostrya virginiana				
3. Abies balsamea			FAC	Total Number of Dominant Species Across All Strata: 5 (B)
4. Acer rubrum			FAC	、,
5. Betula alleghaniensis				Percent of Dominant Species That Are OBL, FACW, or FAC: 40.00 (A/B)
6				Prevalence Index worksheet:
7			· · ·	
Carling/Charle Christian / District	_115_	= Total Co	vei	OBL species
Sapling/Shrub Stratum (Plot size: 15')	_	V		FAC species 42 x3 = 126
1. <u>Tilia americana</u>				FACU species 96 x 4 = 384
2. <u>Prunus serotina</u>				UPL species 0 x 5 = 0
3. Quercus rubra				Column Totals: <u>138</u> (A) <u>510</u> (B)
4				Provolence Index - P/A - 2.70
5				Prevalence Index = B/A =3.70
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	8	= Total Co	ver	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:)				3 - Prevalence index is \$3.0 4 - Morphological Adaptations ¹ (Provide supporting
1. Carex pedunculata	5	Y	FAC	data in Remarks or on a separate sheet)
2. Athyrium angustum	5	Y	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Dryopteris intermedia</u>			FAC	1
4. <u>Pyrola elliptica</u>			FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Solidago flexicaulis</u>			FACU	Definitions of Vegetation Strata:
6.				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
	-			Woody vines – All woody vines greater than 3.28 ft in
12.	15	= Total Co		height.
Manda Vina Chataina (Distaina 201		= rotar Co	ver	
Woody Vine Stratum (Plot size:)				
1.				
2				
				Hydrophytic Vegetation
3				Vegetation
3			· ——	Present? Yes No/

SOIL Sampling Point: wase028_u

Profile Des	cription: (Describe 1	to the dep	th needed	to docur	nent the i	indicator	or confirm	the absence	e of indicators.)	
Depth		Matrix				x Feature		. 2	- .		
(inches)	5YR	(moist) 3/2	100	Color (r	moist)	<u> </u>	_Type'	Loc ²	Texture CI	Remarks	
3-14	5YR	3/2		5YR	1/6	2		M	CI	Prominent redox concentrations	
14-20				SIK	4/0			IVI	CL CL	Fromment redox concentrations	
14-20	311	3/3	100						CL		
			· ——								
-											
	-					-					
	-					-					
			· ——								
-							-				
	-						-				
			· 								
¹ Type: C=C Hydric Soil			letion, RM:	=Reduced I	Matrix, MS	S=Masked	d Sand Gr	ains.	Location	n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :	
Histoso	I (A1)			Polyva	alue Belov	w Surface	(S8) (LR	R R,		Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A: istic (A3)	2)			RA 149B)		DD D M	LRA 149B)		Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4)				Mineral (F				Surface (S7) (LRR K, L)	
	d Layers (A d Below Da		o (A11)		y Gleyed l ted Matrix	Matrix (F2	2)			alue Below Surface (S8) (LRR K, L) Dark Surface (S9) (LRR K, L)	
-	ark Surface		5 (A11)			rface (F6)			Iron-Manganese Masses (F12) (LRR K, L, R)		
-	Mucky Mine Gleyed Mat				ted Dark : Depress	Surface (F	- 7)		Piedmont Floodplain Soils (F19) (MLRA 149B)Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
-	Redox (S5)	IIX (34)			CDepiess	10115 (1-0)			Red Parent Material (F21)		
	d Matrix (S6 urface (S7)		/ILRA 1498	3)						Shallow Dark Surface (TF12) (Explain in Remarks)	
		-		etland hydro	ology mus	st be prese	ent, unles	s disturbed	or problemati	c.	
Restrictive	Layer (if o	bserved):									
Type:	-h)								Hydric Soi	I Present? Yes No✓	
Remarks:	iches):								1194110 001	11105cm: 105 No	
Clay loa	m with i	edox. I	No hyd	ric soil i	ndicat	ors we	re obs	erved.			



wase028_u_N



wase028_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashla	nd	Sampling Date: <u>2019-09-27</u>
Applicant/Owner: Enbridge			
Investigator(s): ARK/KDF	Section, Township, R	ange: <u>044N-002W-(</u>)7
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.30			
Soil Map Unit Name: Tula-Wormet-Gogebic complex, (
Are climatic / hydrologic conditions on the site typical for this time		•	· ·
Are Vegetation, Soil, or Hydrology signifi			
Are Vegetation, Soil, or Hydrology natura			
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point	locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sample		
Hydric Soil Present? Yes No		and? Yes <u>√</u>	
Wetland Hydrology Present? Yes No		Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separate Peatland dominated by tall and low shrubs	e report.) So with conifer trees.	competing, Surro	unded by mixed
conifer-hardwoods.	, with common troop	compound. Carro	anaca by mixea
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that a	(vlaar	Surface Soil	
	ained Leaves (B9)	Drainage Pa	
✓ High Water Table (A2) — Aquatic F		Moss Trim L	
✓ Saturation (A3) Marl Dep			Water Table (C2)
Water Marks (B1) Hydroger	n Sulfide Odor (C1)	Crayfish Bur	rows (C8)
Sediment Deposits (B2) Oxidized	Rhizospheres on Living Roo	ots (C3) Saturation V	isible on Aerial Imagery (C9)
	e of Reduced Iron (C4)		tressed Plants (D1)
	ron Reduction in Tilled Soils	(C6) <u>√</u> Geomorphic	Position (D2)
	ck Surface (C7)	Shallow Aqu	
	xplain in Remarks)	✓ Microtopogra	
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	Test (D5)
Field Observations:			
Surface Water Present? Yes No✓ Depth (i Water Table Present? Yes ✓ No Depth (i			
Water Table Present? Yes ✓ No Depth (i Saturation Present? Yes ✓ No Depth (i	· ·	letland Hydrology Preser	nt? Yes✓_ No
(includes capillary fringe)			It: 165 <u>v</u> 110
Describe Recorded Data (stream gauge, monitoring well, aeria	photos, previous inspection	ns), if available:	
Remarks:			
Saturated recharge wetland.			
1			

VEGETATION – Use scientific names of plants.

	5.			Sampling Point: wase024f_w
Tree Stratum (Plot size:30')	Absolute % Cover		Indicator Status	Dominance Test worksheet:
1. <u>Picea mariana</u>	15	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:8 (A)
2. Larix laricina	5	Y	FACW	Total Number of Dominant
3				Species Across All Strata: 8 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	20	= Total Co	ver	OBL species26 x 1 =26
Sapling/Shrub Stratum (Plot size:)				FACW species30 x 2 =60
1. <u>Betula alleghaniensis</u>	10	Y	FAC	FAC species10 x 3 =30
2. <u>Nemopanthus mucronatus</u>				FACU species0 x 4 =0
3. <u>Rhododendron groenlandicum</u>				UPL species 0 x 5 = 0
4.				Column Totals:66(A)116(B)
5				Prevalence Index = B/A =1.76
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		_ 10141 00	VO 1	3 - Prevalence Index is ≤3.0¹
1. Gaultheria hispidula	5	Υ	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Iris versicolor</u>			OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Osmundastrum cinnamomeum			FACW	
4. Lycopus uniflorus				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
6.				Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Co	ver	height.
		= Total CC	vei	
Woody Vino Stratum (Plataiza: 30')				
1				
2.			·	
1			·	Hydrophytic Vegetation
1. 2.	- ————————————————————————————————————			Hydrophytic Vegetation Present? Yes✓ No

SOIL Sampling Point: wase024f_w

Profile Des	cription: (Describe	to the dept	h needed to docun	nent the i	ndicator	or confirm	n the absence of indicators.)	
Depth (in all as)	Matrix	0/		x Features		Loc ²	Tautura	
(inches) 0-6	Color (moist) 5YR 4/2	100	Color (moist)	%	Type'	LOC	Texture Remarks	_
6-12	10YR 2/1	100					Р	_
	2.5Y 2.5/1							_
	10YR 4/2						MMI	_
10 20	<u> </u>	100						_
		·						_
								_
								_ !
								_
¹ Type: C=C Hydric Soil	oncentration, D=Depl	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :	
Histoso		_	Polyvalue Belov	v Surface	(S8) (LRF	RR,	2 cm Muck (A10) (LRR K, L, MLRA 149B)	
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		DD D MI	DA 140D)	Coast Prairie Redox (A16) (LRR K, L, R)5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
Hydroge	en Sulfide (A4)	-	Loamy Mucky N	/lineral (F1) (LRR K		Dark Surface (S7) (LRR K, L)	
	d Layers (A5)	- (044)	Loamy Gleyed I)		Polyvalue Below Surface (S8) (LRR K, L)	
-	d Below Dark Surface ark Surface (A12)	e (A11)	Depleted MatrixRedox Dark Suit				Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)	-	Depleted Dark S		7)		Piedmont Floodplain Soils (F19) (MLRA 149	
-	Gleyed Matrix (S4) Redox (S5)	-	Redox Depress	ions (F8)			Mesic Spodic (TA6) (MLRA 144A, 145, 149E Red Parent Material (F21)	3)
-	d Matrix (S6)						Very Shallow Dark Surface (TF12)	
Dark Su	ırface (S7) (LRR R, N	ILRA 149B)				Other (Explain in Remarks)	
	f hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
Restrictive Type:	Layer (if observed):							
'' -	ches):						Hydric Soil Present? Yes No	_
Remarks:								
Peat ove	er muck and m	ucky mi	neral soil.					
								ļ
I								



wase024f_w_E



wase024f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

Evaluator(s):		
Date of visit(s):		
Ecological Landsca	ape:	
Watershed: LS14, Upper Bad River		
1		
WWI Class: T3/S3K		
	s swamp	
Wetland Size: 0.58	Wetland Area Impacted 0.58	
The canopy is dominate Larix laricina. Betula alle Rhododendron groenlan versicolor dominates the	d by Picea mariana, Betula alleghaniensis, ighaniensis, Chamaedaphne calyculata, and dicum dominate the shrub layer. Iris herbaceous layer. There is a dense mat of	
	KDF/ARK Date of visit(s): 09/27/2019 Ecological Landsca North Central Forest Watershed: LS14, Upper Bad River WWI Class: T3/S3K Wetland Type(s): PFO - coniferous Wetland Size: 0.58 Vegetation: Plant Community D The canopy is dominate: Larix laricina. Betula alle Rhododendron groenlan	

SITE MAP		

SECTION 1: Functional Value Assessment

1 N Y Used for recreation (hunting, birding, hiking, etc.). List Birding 2 N N Used for educational or scientific purposes 3 Y Y Y Visually or physically accessible to public 4 Y Y Y Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N In or adjacent to RED FLAG areas List: 6 N Y Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site Will Willief Habitat 1 Y Y Wetland and configuous habitat 510 acres 2 Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 N N 100 m buffer - natural land cover ≥50%(south) 75% (nonth) intact 5 N N 0 Occurs in a Joint Venture priority township 6 N Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y plans 8 N Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 9 N N Ephemeral pond with water present ≥45 days 10 N Y Standing water provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 11 N N Seasonally exposed mudflists present ≥45 days 12 N N Provides habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 13 N N Wetland and water provides habitat for amphibians and aquatic invertebrates 14 N N Personally exposed mudflists present ≥45 days 15 N N Provides habitat scarce in the area (urban, agricultural, etc.) 16 N Y Standing water provides habitat for amphibians and aquatic invertebrates 17 N N Wetland is connected or contiquous with perennial stream or lake 18 N N N Natural Heritage inventory (NHI) issed aquatic species within aquatic system 19 N N N Natural Heritage inventory (NHI) issed aquatic species within aquatic system 10 N N Standing water provides habitat for amphibians and aquatic invertebrates 10 N N Notes and the provides habitat for amphibians and aquatic invertebrates 11 N N Network and the provides habitat for amphibians			ECTION 1:	Functional Value Assessment
2	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Birding
3	2	N	N	Used for educational or scientific purposes
4	3	Υ	Υ	
In or adjacent to RED FLAG areas Isist: Is	4		Y	
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File	5	Ν	N	
In or adjacent to archaeological or cultural resource site Wildlife Habitat Wildlife Habitat Wildlife Habitat Wildlife Habitat	6	N		
Wildlife Habitat Y		IN		
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5 N Wetland is within a wellhead protection area	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)								
HU-3: part of wetland is visible from public roadway but is located on private land								
WH-10: standing water may be present after precipitation events ST-3: dense vegetation present, including mat of Sphagnum sp.								
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)						
Lis	st: direct ob	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,						
	nter, etc.							
	•							
Observed	Potential	Species/Habitat/Comments						
	Υ	Herpetofauna, mammals, insects						
Y	Υ	Avian						
-		7.77						
	-							
Fis	sh and Aqua	atic Life Habitat and Species Observations						
Lis	st: direct ob	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.						
Observed	Potential	Species/Habitat						
	Υ	Aquatic invertebrates						
		1						
	+							
	 							
<u> </u>	 							
	ı							

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

Train Community integrity (Oricio)							
	Low	Medium	High	Exceptional			
Invasive species cover	> 50%	20-50%	10-20%	<10%			
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented			
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)			
Relative frequency of plant community in watershed	Abundant	Common	Uncommon✓	Rare			
FQI (optional)	<13	13-23	23-32	>32			
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7			

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Picea mariana			PFO	Common
Larix laricina			PFO	Uncommon
Betula alleghaniensis			PFO	Common
Nemopanthus mucronatus			PFO	Common
Rhododendron groenlandicum			PFO	Common
Gaultheria hispidula			PFO	Uncommon
Iris versicolor			PFO	Uncommon
Osmundastrum cinnamomeum			PFO	Uncommon
Lycopus uniflorus			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The vegetation is comprised of native vegetation with no observable invasive species. The community seems relatively intact.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
, ,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
Х	Х		M	С	Point source or stormwater discharge
Х	Х		L	U	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
Х	Х		M	С	Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
				Human trails – unpaved	
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland and surrounding area is primarily impacted by a roadway and the associated polluted runoff.								

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE						
Γ	Low	Medium	High	Exceptional	NA		
Floristic Integrity			√				
Human Use Values		✓					
Wildlife Habitat			√				
Fish and Aquatic Life Habitat	√						
Shoreline Protection					√		
Flood and Stormwater Storage			√				
Water Quality Protection			√				
Groundwater Processes			√				

FUNCTION	RATIONALE
Floristic Integrity	Diverse vegetation, native species, no invasives, uncommon plant community
Human Use Values	High aesthetic, visible from public road, limited access to private land
Wildlife Habitat	Multiple strata represented
Fish and Aquatic Life Habitat	Potential for shallow standing water pools to support aquatic invertebrates, would not support fish
Shoreline Protection	
Flood and Stormwater Storage	Closed basin, dense vegetation that collects stormwater runoff from the associated road
Water Quality Protection	See above
Groundwater Processes	Seeps present, recharge hydrology

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	nland	Sampling Date: <u>2019-09-3(</u>
Applicant/Owner: Enbridge			
Investigator(s): ARK/KDF	Section, Township	o, Range: 044N-002W-	-07
Landform (hillslope, terrace, etc.): Crest			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.30			
Soil Map Unit Name: Tula-Wormet-Gogebic complex,			
		•	· ·
Are climatic / hydrologic conditions on the site typical for this time.			
Are Vegetation, Soil, or Hydrology signi			
Are Vegetation, Soil, or Hydrology natu			
SUMMARY OF FINDINGS – Attach site map sho	owing sampling poi	nt locations, transect	s, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sam	-	
Hydric Soil Present? Yes No _	within a W	/etland? Yes	No <u>√</u>
Wetland Hydrology Present? Yes No _		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a separa Mesic forest location, on a ridge separatin	te report.)	This unland noint is	shared with wetland
wase025.	ig two wettarius.	i ilis upianu point is	Shared with wetland
Wa36025.			
HYDROLOGY			
Wetland Hydrology Indicators:		•	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all that		Surface So	
	Stained Leaves (B9)	Drainage P	
	Fauna (B13) posits (B15)		Lines (B16)
	en Sulfide Odor (C1)		n Water Table (C2) urrows (C8)
	d Rhizospheres on Living		Visible on Aerial Imagery (C9)
	ce of Reduced Iron (C4)		Stressed Plants (D1)
	Iron Reduction in Tilled So		ic Position (D2)
<u> </u>	ıck Surface (C7)	Shallow Aq	
	Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	,		al Test (D5)
Field Observations:			
Surface Water Present? Yes No ✓ _ Depth	(inches):		
Water Table Present? Yes No ✓ _ Depth	(inches):		
Saturation Present? Yes No _✓ Depth	(inches):	Wetland Hydrology Prese	ent? Yes No <u>√</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspec	tions) if available:	
Bosonibe Nessoraea Bata (Stream gauge, mormoning well, acit	ar priotos, proviodo mopos	nonoj, ii avaliabio.	
Remarks: No indicators of wetland hydrology were of	phearwood		
Two malcalors of welland flydrology were c	noseiveu.		
			l

VEGETATION – Use scientific names of plants.

				Sampling Point: <u>wase024_u</u>		
<u>Tree Stratum</u> (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. <u>Tsuga canadensis</u>			FACU	Number of Dominant Species That Are OBL, FACW, or FAC:3(A)		
2. Abies balsamea						
3. Acer saccharum				Total Number of Dominant Species Across All Strata: 5 (B)		
4. <u>Populus tremuloides</u>						
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 60.00 (A/B)		
6				Prevalence Index worksheet:		
7	_			Total % Cover of: Multiply by:		
	90	= Total Co	ver	OBL species0 x 1 =0		
Sapling/Shrub Stratum (Plot size: 15')				FACW species0 x 2 =0		
1. <u>Acer rubrum</u>	5	Y	FAC	FAC species <u>52</u> x 3 = <u>156</u>		
2				FACU species <u>81</u> x 4 = <u>324</u>		
3				UPL species		
4.				Column Totals:133 (A)480 (B)		
*				Prevalence Index = B/A =3.61		
				Hydrophytic Vegetation Indicators:		
5				1 - Rapid Test for Hydrophytic Vegetation		
7				✓ 2 - Dominance Test is >50%		
	5	= Total Co	ver	3 - Prevalence Index is ≤3.0¹		
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting		
1. <u>Pteridium aquilinum</u>		<u>Y</u>	<u>FACU</u>	data in Remarks or on a separate sheet)		
2. <u>Clintonia borealis</u>	10	Y	<u>FAC</u>	Problematic Hydrophytic Vegetation ¹ (Explain)		
3. <u>Dendrolycopodium dendroideum</u>	5	N	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must		
4. <u>Cornus canadensis</u>	2	N	FAC	be present, unless disturbed or problematic.		
5. <i>Maianthemum canadense</i>	1	N	<u>FACU</u>	Definitions of Vegetation Strata:		
6						
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
8						
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
10.						
		-	-	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
11	_			Meaduring All woods vines greater than 2.20 ft in		
12				Woody vines – All woody vines greater than 3.28 ft in height.		
	38	= Total Co	ver			
Woody Vine Stratum (Plot size: 30')						
1						
2		-				
3				Hydrophytic		
				Vegetation Present? Yes ✓ No		
4						

SOIL Sampling Point: wase024_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence o	f indicators.)
Depth	Matrix Color (moist)	<u></u> %	Redox Features Color (moist) % Type ¹ Loc ²		1002	Texture	Remarks	
(inches) 0-4	10YR 2/1	100	Color (moist)	70	_ rype	LUC	rexture	Remarks
4-12	5YR 4/3	100					SCL	
	7.5YR 3/4						SCL	
Hydric Soil		letion, RM=					Indicators for	PL=Pore Lining, M=Matrix. or Problematic Hydric Soils³:
Black H Hydroge Stratifie Deplete Thick D Sandy N Sandy F Strippee Dark Su	i (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR R, No	ILRA 149B; ion and wet		ice (S9) (L dineral (F1 Matrix (F2 (F3) rface (F6) Surface (F ions (F8)	.RR R, MI) (LRR K)	.RA 149B) , L)	Coast P 5 cm Mu Dark Su Polyvalu Thin Da Iron-Mai Piedmoi Mesic S Red Par Very Sh Other (E	ack (A10) (LRR K, L, MLRA 149B) rairie Redox (A16) (LRR K, L, R) acky Peat or Peat (S3) (LRR K, L, R) rface (S7) (LRR K, L) ae Below Surface (S8) (LRR K, L) rk Surface (S9) (LRR K, L) anganese Masses (F12) (LRR K, L, R) at Floodplain Soils (F19) (MLRA 149B) podic (TA6) (MLRA 144A, 145, 149B) rent Material (F21) allow Dark Surface (TF12) explain in Remarks)
Type:	Layer (II observed).							
	ches):						Hydric Soil P	Present? Yes No/_
Remarks: No indica	ators of hydric	soils we	ere observed					



wase024_u_N



wase024_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloca	ation Proiect	City	County: Ashland		Sampling Date: <u>2019-10-05</u>
	•				Sampling Point: wase069f_w
Investigator(s): NTT/ARK					
			·		Slope (%): <u>0-2%</u>
					Datum: WGS84
					ation:
Are climatic / hydrologic conditio					
· -		-			resent? Yes✓ No
Are Vegetation, Soil					
SUMMART OF FINDINGS	- Allach Sil	e map snowing sa			, important features, etc.
Hydrophytic Vegetation Presen		✓ No	Is the Sampled Area within a Wetland?		No
Hydric Soil Present?		✓ No			
Wetland Hydrology Present? Remarks: (Explain alternative		✓ No	If yes, optional Wetla	and Site ID:	
HYDROLOGY					
Wetland Hydrology Indicator	s:			Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of	f one is required; c	check all that apply)		Surface Soil	Cracks (B6)
Surface Water (A1)		Water-Stained Leav	res (B9)	Drainage Pat	terns (B10)
High Water Table (A2)		Aquatic Fauna (B13		Moss Trim Li	
Saturation (A3)		Marl Deposits (B15)		Dry-Season \	
Water Marks (B1)		Hydrogen Sulfide O		Crayfish Burr	
Sediment Deposits (B2)			-		sible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of ReduceRecent Iron Reduct	` '		ressed Plants (D1)
Algal Mat or Crust (B4) Iron Deposits (B5)		Thin Muck Surface		✓ Geomorphic — Shallow Aqui	
Inundation Visible on Aeria		Other (Explain in Re		Microtopogra	
Sparsely Vegetated Conca		Other (Explain in the	manoj	FAC-Neutral	
Field Observations:				<u> </u>	
Surface Water Present?	Yes No _	✓ Depth (inches):			
		✓ Depth (inches):			
Saturation Present?		✓ Depth (inches):		d Hydrology Presen	t? Yes/ No
(includes capillary fringe) Describe Recorded Data (streat	 am gauge, monitori	ring well, aerial photos, p	evious inspections), if a	vailable:	
,			, ,		
Remarks: Feature likely with a s	saturated hy	drologic regime			
T catalo likely with a t	saturated riy	arologio regime.			

VEGETATION – Use scientific names of plants.

/EGETATION - Use scientific names of plants				Sampling Point: wase069f_w
Tree Stratum (Plot size:30')	Absolute % Cover	Dominar Species	nt Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>	37.5	Y	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
2. <u>Acer rubrum</u>				Total Number of Dominant
3				Species Across All Strata: 4 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7		_		Total % Cover of: Multiply by:
	47.5	_ = Total Co	over	OBL species 30 x 1 = 30
Sapling/Shrub Stratum (Plot size:)				FACW species <u>47.5</u> x 2 = <u>95</u>
1. <u>Ilex verticillata</u>	5	Y	FACW	FAC species10 x 3 =30
2				FACU species 0 x 4 = 0
3				UPL species $0 \times 5 = 0$
4				Column Totals: <u>87.5</u> (A) <u>155</u> (B)
5				Prevalence Index = B/A =1.77
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	- <u> </u>			∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')		_		3 - Prevalence Index is ≤3.0¹
1. <u>Glyceria striata</u>	25	Υ	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Carex crinita</u>			OBL	Problematic Hydrophytic Vegetation¹ (Explain)
3. Rubus pubescens			FACW	
4				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				
6.				Definitions of Vegetation Strata:
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	nver	height.
Woody Vine Stratum (Plot size:30')		_ = 10101 01	3701	
1				
2				
3				Hudronhutio
4				Hydrophytic Vegetation
T		_ = Total Co	avor.	Present? Yes <u>√</u> No
Remarks: (Include photo numbers here or on a separate Small black ash depression. Braun-Bla	sheet.)			

SOIL Sampling Point: wase069f_w

Profile Des	cription: (Desc	ribe to the dep	th needed	to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth (inches)	Mat		Color (r		x Features %	Type ¹	Loc ²	Texture	Remarks
0-7	10YR 3		COIOI (I	HOIST)	70	туре	LOC	SICL	Remarks
7-14	10YR 3		5YR	4/4	5	С	M	SCL	Prominent redox
					10	С	M		
Type: C=C Hydric Soil Histoso Histic E Black H Hydrog Stratifie Deplete Thick D Sandy I Sandy I Sandy I Strippee Dark St	concentration, Definition (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark S ark Surface (A1) Mucky Mineral (Seedox (S5) d Matrix (S6) urface (S7) (LRF)	urface (A11) 2) S1) 64)	FReduced Matrix, MS=Masked Sand Grains. Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)					²Location Indicators 2 cm Coast 5 cm Dark s Polyvo Thin I Iron-N Piedm Mesico Red F Very s Other	n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ : Muck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Mucky Peat or Peat (S3) (LRR K, L, R) Surface (S7) (LRR K, L) Palue Below Surface (S8) (LRR K, L) Park Surface (S9) (LRR K, L) Panont Floodplain Soils (F19) (MLRA 149B) Parent Material (F21) Shallow Dark Surface (TF12) (Explain in Remarks)
	of hydrophytic ve Layer (if obser	-	Zilaria Tiyari	ology mas	or be prese	ont, unico	3 disturbed	or problemati	
Type:									
Depth (in	ches):							Hydric Soi	I Present? Yes No
Remarks: Redox c	oncentratio	ons presen	t in low	er prof	ile.				



wase069f_w_N



wase069f_w_W

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION				
Project name: Line 5 Relocation Project	Evaluator(s): NTT/ARK			
File #: wase069	Date of visit(s): 10/05/2019			
Location: PLSS: 044N-002W-08	Ecological Landsca North Central Forest	ape:		
Lat: <u>46.305358</u> Long: <u>-90.651971</u> County: <u>Ashland</u> Town/City/Village: <u>Morse town</u>	Watershed: LS14, Upper Bad River			
SITE DESCRIPTION				
Soils: Mapped Type(s):	WWI Class:			
5172C, Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes Field Verified:	Wetland Type(s): PFO - hardwood swamp			
Series not verified. Soils were silty clay loam above sandy clay above silt clay.	Wetland Size: 0.02	Wetland Area Impacted 0.02		
	Vegetation: Plant Community D	Description(s):		
Hydrology: The feature is a small depressional wetland with a saturated hydrologic regime.	The wetland is a hardwood swamp located in basin depression impacted by logging. The canopy is dominated by Fraxinus nigra, with ground cover dominated by Glyceria striata.			

 SITE MAP

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N N	Within or adjacent to habitat corridor or established wildlife habitat area
4			
	N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	Υ	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
	N.	N.I	Provides substantial storage of storm and floodwater based on previous section
1	N	N	Basin wetland or constricted outlet
2	Y	Y	Water flow through wetland is NOT channelized
3			
. /1	N	N	
4	N	N	Vegetated wetland associated with a lake or stream
5	N N	N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation
5 6	N N N	N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
5 6 7	N N N	N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
5 6 7 8	N N N N	N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
5 6 7 8 9	N N N	N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
5 6 7 8	N N N N	N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
5 6 7 8 9	N N N N	N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
5 6 7 8 9 GW	N N N N N	N N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
5 6 7 8 9 GW 1 2	N N N N N N	N N N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
5 6 7 8 9 GW 1 2 3	N N N N N N	N N N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
5 6 7 8 9 GW 1 2	N N N N N N	N N N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Section 1 Comments (Refer to Section 1 numbers) HU-3: located nearby an old logging road with a logged area
ST-1: basin wetland located within a heavily logged forest
WH-2: multiple strata represented, dominated by Fraxinus nigra with llex verticillata present within the shrub layer WH-8: located in a large forested block Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments White-tailed deer Υ Songbirds Frogs Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	inty intogrity (on olo)			
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Common
Acer rubrum			PFO	Common
llex verticillata			PFO	Uncommon
Glyceria striata			PFO	Common
Carex crinita			PFO	Uncommon
Rubus pubescens			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland has been heavily logged. Fraxinus nigra and Acer rubrum are present throughout.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
V	Х		М		Removal of herbaceous stratum – mowing,
X	^		IVI	С	grading, earthworms, etc.
Х	Х	Х	Н	С	Removal of tree or shrub strata – logging,
^	^	^	П	C	unprescribed fire
	Χ		М	С	Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
Χ	Χ		Н	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is located in a logged forest with old logging roads present throughout.			

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat	√				
Shoreline Protection					1
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE			
Floristic Integrity	Low diversity, disturbed due to logging			
Human Use Values	Located in a logged forest, potential for recreational hunting			
Wildlife Habitat	Part of a large forested block with potential for multiple species habitat			
Fish and Aquatic Life Habitat	Potential for pockets of standing water throughout the wetland			
Shoreline Protection	N/A			
Flood and Stormwater Storage	Small basin wetland			
Water Quality Protection	Sparse vegetation within wetland			
Groundwater Processes	Majority of input is from rain water			

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/Count	y: Ashland	Sampling Date: 2019-10-05		
Applicant/Owner: Enbridge					
Investigator(s): NTT/ARK	Section, Township, Range: 044N-002W-08				
Landform (hillslope, terrace, etc.): Talf					
Subregion (LRR or MLRA): Northcentral Forests					
Soil Map Unit Name: Gogebic, very stony-Pence,					
Are climatic / hydrologic conditions on the site typic					
Are Vegetation, Soil, or Hydrology _					
Are Vegetation, Soil, or Hydrology _					
SUMMARY OF FINDINGS – Attach site	e map snowing sampiir	ng point locations, transect	ts, important features, etc.		
Hydrophytic Vegetation Present? Yes		he Sampled Area			
	INO <u>V</u>	nin a Wetland? Yes	No/		
Wetland Hydrology Present? Yes		es, optional Wetland Site ID:			
Remarks: (Explain alternative procedures here of Sample recorded in an opening with data point for wetland feature was	vithin a mesic hardwo	ood system. Sample ser	ves as a shared upland		
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)		
Primary Indicators (minimum of one is required; c	heck all that apply)	Surface So	oil Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9) Drainage F	Drainage Patterns (B10)		
	Aquatic Fauna (B13)		Lines (B16)		
	Marl Deposits (B15)	-	n Water Table (C2)		
	Hydrogen Sulfide Odor (C		urrows (C8)		
	Oxidized Rhizospheres on		Visible on Aerial Imagery (C9)		
	Presence of Reduced Iron		Stressed Plants (D1)		
	Recent Iron Reduction in T		ic Position (D2)		
	Thin Muck Surface (C7)	Shallow Ad			
	Other (Explain in Remarks	· — · ·	graphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neutr	al Test (D5)		
Field Observations:	(Danth (inches)				
	 ✓ Depth (inches): ✓ Depth (inches): 				
	✓ Depth (inches):		ent? Yes No √		
(includes capillary fringe)			- 140 <u>- 1</u>		
Describe Recorded Data (stream gauge, monitori	ng well, aerial photos, previous	s inspections), if available:			
Remarks:					
No wetland hydrology indicators v	were observed.				

VEGETATION – Use scientific names of plants.

•	S.			Sampling Point: <u>wase068_u</u>		
Tree Stratum (Plot size:30')	Absolute % Cover		Indicator Status	Dominance Test worksheet:		
Acer saccharum	17.5	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: (A)		
2. <u>Picea glauca</u>						
3				Total Number of Dominant Species Across All Strata: (B)		
4.				Percent of Dominant Species		
5				That Are OBL, FACW, or FAC: 33.33 (A/B)		
6.						
7				Prevalence Index worksheet:		
	27.5					
Sapling/Shrub Stratum (Plot size: 15')	21.0	= Total Co	VCI	FACW species		
1. <u>Fraxinus nigra</u>	10	V	EACW.	FAC species 22 x 3 = 66		
				FACU species 72 x 4 = 288		
2. <u>Prunus serotina</u>				UPL species0 x 5 =0		
3. <u>Alnus incana</u>				Column Totals:109 (A)384 (B)		
4				Prevalence Index = B/A = 3.52		
5		-	·			
5				Hydrophytic Vegetation Indicators:		
7				1 - Rapid Test for Hydrophytic Vegetation		
	20	= Total Co	ver	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹		
Herb Stratum (Plot size:5')				3 - Prevalence index is \$3.0 4 - Morphological Adaptations ¹ (Provide supporting		
1. <u>Solidago canadensis</u>	37.5_	Y	<u>FACU</u>	data in Remarks or on a separate sheet)		
2. Symphyotrichum lateriflorum	10	N	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
3. <i>Rubus idaeus</i>	10	N	FAC	1		
4. Trientalis borealis	2	Ν	FAC			
5. <u>Fragaria virginiana</u>			FACU			
6				Definitions of Vegetation Strata.		
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
8						
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
			·	Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
11				Woody vines – All woody vines greater than 3.28 ft in		
12				height.		
	61.5	= Total Co	ver			
Woody Vine Stratum (Plot size:30')						
1						
2						
3				Hydrophytic		
4			·	Vegetation Present? Yes No✓		
	0.0	= Total Co	vor			

SOIL Sampling Point: wase068_u

Profile Desc	ription: ([Describe 1	to the dep	th needed to docur	nent the	ndicator	or confirm	the absence of ind	icators.)
Depth (inches)	Color (Matrix	%	Redo Color (moist)	x Feature %	Type ¹	Loc ²	Texture	Remarks
(IIICHES)	10YR			Color (Illoist)		Type	LUC	SIL	Nemarks
<u>U-11</u>			100		-				
11-20	5YK	4/3	100			-		SIL	
					<u> </u>				
					<u> </u>				
						-			
			etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		Pore Lining, M=Matrix.
Hydric Soil		:							oblematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2	2)		Polyvalue Belov MLRA 149B)		(S8) (LRF	RR,		10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R)
Black Hi		-)		Thin Dark Surfa		RR R, MI	RA 149B)		Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A			Loamy Mucky N			, L)		(S7) (LRR K, L)
	d Layers (A d Below Da		· (Λ11)	Loamy Gleyed Depleted Matrix		2)			low Surface (S8) (LRR K, L) rface (S9) (LRR K, L)
	ark Surface		e (ATT)	Redox Dark Su					ese Masses (F12) (LRR K, L, R)
	lucky Mine			Depleted Dark S				-	odplain Soils (F19) (MLRA 149B)
-	Bleyed Matr	ix (S4)		Redox Depress	ions (F8)				(TA6) (MLRA 144A, 145, 149B)
-	tedox (S5) Matrix (S6)						Red Parent M	laterial (F21) Dark Surface (TF12)
	rface (S7) (ILRA 149E	3)					n in Remarks)
3									
Restrictive I		_		tland hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
Type:	Layer (II or	osci vedj.							
	ches):							Hydric Soil Prese	nt? Yes No <u>√</u>
Remarks:	J1100)								
	soil in	dicator	s were	observed.					



wase068_u_E



wase068_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: <u>2019-10-05</u>		
Applicant/Owner: Enbridge					
Investigator(s): NTT/ARK					
Landform (hillslope, terrace, etc.): Depression		=			
Subregion (LRR or MLRA): Northcentral Forests La					
Soil Map Unit Name: Tula-Wormet-Gogebic co					
Are climatic / hydrologic conditions on the site typical					
	•				
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach site i	map showing sampling poir	t locations, transects	, important features, etc.		
Hydrophytic Vegetation Present? Yes <u>✓</u>	No Is the Samp				
		tland? Yes <u>√</u>	No		
		nal Wetland Site ID:			
Remarks: (Explain alternative procedures here or in Data point not representative of the	a separate report.)	Cedar is more nrev	alent on the		
boundary of the wetland with tamar					
	ack in the interior. Comin	idility is a forested	peatiand/confinerous		
swamp.					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)		
Primary Indicators (minimum of one is required; che	ck all that apply)	Surface Soil	Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pat	Drainage Patterns (B10)		
High Water Table (A2)	_ Aquatic Fauna (B13)	Moss Trim Li	nes (B16)		
Saturation (A3)	Marl Deposits (B15)	Dry-Season \	Dry-Season Water Table (C2)		
	Hydrogen Sulfide Odor (C1)	· · · · · · · · · · · · · · · · · · ·	Crayfish Burrows (C8)		
	Oxidized Rhizospheres on Living R	oots (C3) Saturation Vi	sible on Aerial Imagery (C9)		
	Presence of Reduced Iron (C4)		ressed Plants (D1)		
	Recent Iron Reduction in Tilled Soi				
	Thin Muck Surface (C7)	Shallow Aqui			
	Other (Explain in Remarks)	Microtopogra			
Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutral	Test (D5)		
Field Observations:	Donath (inches): 1				
	Depth (inches): 4				
	Depth (inches): 0	Wetland Hydrology Presen	t2 Voc / No		
(includes capillary fringe)	_ Deptit (inches). <u>U</u>	Welland Hydrology Fresen	t: Tes_v NO		
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspecti	ons), if available:			
Remarks:					
Standing pools of water throughout	the wetland.				
g p					
1					

				Sampling Point: wase067f1_w
Tree Stratum (Plot size: 30')	Absolute % Cover	Dominan Species?	t Indicator Status	Dominance Test worksheet:
1. Thuia occidentalis				Number of Dominant Species That Are OBL, FACW, or FAC:10 (A)
2. Larix laricina				
3. <u>Betula alleghaniensis</u>				Total Number of Dominant Species Across All Strata:
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	92.5	= Total Co	ver	OBL species15 x1 =15
Sapling/Shrub Stratum (Plot size:)				FACW species <u>102.5</u> x 2 = <u>205</u>
1. <u>Ilex verticillata</u>	17.5	Y	FACW	FAC species <u>37.5</u> x 3 = <u>112.5</u>
2. <u>Abies balsamea</u>	10.0	Y	FAC	FACU species0 x 4 =0
3				UPL species $0 \times 5 = 0$ Column Totals: 155×6 (A) 332.5×6 (B)
4				
5				Prevalence Index = B/A = 2.15
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co		∠ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹ A Marghala giral Adaptations¹ (Provide guaranting)
1. Rhododendron groenlandicum	10	Y	OBL	 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2. Vaccinium myrtilloides			<u>FACW</u>	Problematic Hydrophytic Vegetation¹ (Explain)
3. <u>Matteuccia struthiopteris</u>	5	Y	FAC	
4. <u>Carex disperma</u>	5	Y	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Trientalis borealis</u>	5	Y	FAC	Definitions of Vegetation Strata:
6. <u>Coptis trifolia</u>	5	Y	FACW	
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	35	= Total Co	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
				Hydrophytic
3				Vegetation
3. 4.			. ——	Present? Yes ✓ No

SOIL Sampling Point: wase067f1_w

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of	of indicators.)
Depth	Matrix	0/		x Features		1 2	Taratana	Devende
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks
0-18	10YR 2/1	100		·			M	
		· <u></u> -						
	-			· 				
		·						
		·		·				
	-	·						
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lining, M=Matrix.
Hydric Soil			Daharahaa Dalaa		(Oo) (I DE			for Problematic Hydric Soils ³ :
/ Histosol	pipedon (A2)	-	Polyvalue Belov MLRA 149B)		(58) (LRF	κ,		uck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)
	istic (A3)	_	Thin Dark Surfa		RR R, MI	RA 149B)		ucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)	-	Loamy Mucky N			, L)		urface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surfac	- - (A11)	Loamy Gleyed IDepleted Matrix)			ue Below Surface (S8) (LRR K, L) ark Surface (S9) (LRR K, L)
	ark Surface (A12)	e (A11) _	Redox Dark Su					anganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)	_	Depleted Dark \$		7)			ont Floodplain Soils (F19) (MLRA 149B)
-	Sleyed Matrix (S4)	-	Redox Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5) I Matrix (S6)							rent Material (F21) nallow Dark Surface (TF12)
	rface (S7) (LRR R, N	ILRA 149B)					Explain in Remarks)
	f hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type: Depth (in	ches):						Hydric Soil I	Present? Yes/ No
Remarks:								
Black mu	uck soils.							



wase067f1_w_E



wase067f1_w_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	ation Project	City/County: A	shland	Sampling Date: <u>2019-10-05</u>		
	•			Sampling Point: wase067f2_w		
ū				<u>-08</u>		
= ''				<u>re</u> Slope (%): <u>0-2%</u>		
				Datum: WGS84		
				ification:		
		for this time of year? Yes✓				
		•		" present? Yes No		
		naturally problematic?				
				ts, important features, etc.		
			impled Area			
Hydrophytic Vegetation Present Hydric Soil Present?		140	Wetland? Yes <u>√</u>	/ No		
Wetland Hydrology Present?		110	tional Wetland Site ID:			
Remarks: (Explain alternative			tional Wetland Oile ID.			
HYDROLOGY						
Wetland Hydrology Indicator	rs:			icators (minimum of two required)		
Primary Indicators (minimum o	of one is required; che	ck all that apply)				
Surface Water (A1)		_ Water-Stained Leaves (B9)		Drainage Patterns (B10)		
High Water Table (A2)		_ Aquatic Fauna (B13)	Moss Trim			
Saturation (A3)		_ Marl Deposits (B15)		on Water Table (C2)		
Water Marks (B1)		Hydrogen Sulfide Odor (C1)Oxidized Rhizospheres on Livin	Crayfish B			
Sediment Deposits (B2) Drift Deposits (B3)		Presence of Reduced Iron (C4)		Stressed Plants (D1)		
Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled		nic Position (D2)		
Iron Deposits (B5)		_ Thin Muck Surface (C7)	Shallow Ac			
Inundation Visible on Aeri		Other (Explain in Remarks)		graphic Relief (D4)		
Sparsely Vegetated Conc			FAC-Neutr			
Field Observations:						
Surface Water Present?	Yes No <u></u>	Depth (inches):	_			
Water Table Present?	Yes No <u></u>	Depth (inches):	_			
Saturation Present? (includes capillary fringe)		Depth (inches):		ent? Yes <u>√</u> No		
Describe Recorded Data (stre	am gauge, monitoring	well, aerial photos, previous insp	ections), if available:			
Remarks:						
Feature likely with a	saturated hydr	ologic regime.				

VEGETATION – Use scientific names of plants.

				Sampling Point: wase067f2_w
Tree Stratum (Plot size:)	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>			FACW	Number of Dominant Species That Are OBL, FACW, or FAC:6 (A)
2. Acer saccharum			FACU	
3. Acer rubrum				Total Number of Dominant Species Across All Strata:7(B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 85.71 (A/B)
6				
				Prevalence Index worksheet:
7	70			
Conline/Chruib Ctratum (Diet aire) 15'		= Total CC	ivei	FACW species 60 x 2 = 120
Sapling/Shrub Stratum (Plot size: 15')				FAC species15 x3 =45
1				FACU species15 x 4 =60
2				UPL species0 x 5 =0
3				Column Totals: <u>105</u> (A) <u>240</u> (B)
4		-		Dravialance Index: D/A 2.20
5				Prevalence Index = B/A = 2.29
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	0.0	= Total Co	over	 ✓ 2 - Dominance Test is >50% ✓ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:)				4 - Morphological Adaptations (Provide supporting
1. Glyceria striata	10	Y	OBL	data in Remarks or on a separate sheet)
2. Matteuccia struthiopteris	5	Y	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Equisetum pratense</u>	5	Y	FACW	1
4. Carex crinita	5	Y	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Fraxinus nigra</u>	5	Y	FACW	Definitions of Vegetation Strata:
6. Acer saccharum		Υ	FACU	
7.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
				Woody vines – All woody vines greater than 3.28 ft in
12		= Total Co		height.
		= 10(a) 00	vei	
Wash Vira Chatum (District				
1				
2	·			
1				Hydrophytic
1 2				Hydrophytic Vegetation Present? Yes✓_ No

SOIL Sampling Point: wase067f2_w

			pth needed				or confirm	the absence	e of indicators.)	
Depth (inches)	Color (mois		Color (n		x Features%	Type ¹	Loc ²	Texture	Remarks	
0-10	10YR 3	/1 90	2.5YR	3/6	10	_C_	_M_	MMI	Prominent redox	
10-20	10YR 3	/1 80	2.5YR	2.5YR 3/6 20 C M				C Prominent redox		
					· ——					
17 0.00		Danistica DA		A-Liii MG	2 Manhad			21	Di Desa Liniara M Matrix	
Hydric Soil	oncentration, Danie Indicators:	=Depletion, RN	I=Reduced I	/latrix, IVIS	i=Masked	Sand Gra	ains.		n: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :	
Histic E ₁ Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy F Stripped	pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) d Below Dark S ark Surface (A1 Mucky Mineral (S Gleyed Matrix (S Redox (S5) I Matrix (S6)	Thin Dark Surface (S9) (LRR R, MLRA 149B Loamy Mucky Mineral (F1) (LRR K, L) Layers (A5) Below Dark Surface (A11) rk Surface (A12) ucky Mineral (S1) leyed Matrix (S4) edox (S5) Thin Dark Surface (S9) (LRR R, MLRA 149B Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8)			LRA 149B)	 2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) 				
	f hydrophytic ve	-	etland hydro	logy mus	t be prese	nt, unless	s disturbed	or problemati	с.	
	Layer (if obser	ved):								
Type:	ohoo):							Hydric Soi	I Present? Yes No	
Depth (in Remarks:	cnes):							Tiyano oo	100 No	
Dark mu	cky minera	al soil at th	e surfac	e with	redox	conce	ntration	s through	nout the profile.	



wase067f2_w_N



wase067f2_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

Evaluator(s): NTT/ARK		
Date of visit(s): 10/05/2019		
Ecological Landscape: North Central Forest		
Watershed: LS14, Upper Bad River		
WWI Class: T3K, T3/S3K Wetland Type(s): PFO - hardwood swamp, PFO - coniferous swamp		
Wetland Size: Wetland Area Impacted 3.40 3.40		
Vegetation: Plant Community Description(s): The wetland is comprised of multiple forested plant communities. The hardwood swamp component is dominated by Fraxinus nigra. The coniferous swamp is dominated by Larix laricina and Thuja occidentalis, with a ground layer covered in moss and scattered fern.		

SIT	E MAP	 	 	

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ν	N	Used for recreation (hunting, birding, hiking, etc.). List:
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5			
-	N	N	Occurs in a Joint Venture priority township
6	Υ	Y	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	Υ	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present > 45 days
10	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	Υ	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Υ	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	Υ	Υ	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	N	N	water levels or high flows – if no, not applicable
3	N	Υ	Densely rooted emergent or woody vegetation
ST		-	Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	Y	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
	N.I	N.I	Provides substantial storage of storm and floodwater based on previous section
1	N	N	Basin wetland or constricted outlet
2	Y	Y	
3	N	N	Water flow through wetland is NOT channelized
4	Y	Y	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW	<u></u>		Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2	N	N	Location near a groundwater divide or a headwater wetland
3	N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	Y	Ϋ́	Wetland soils are organic
5	N	N	Wetland is within a wellhead protection area
	I N	I IN	Troduction to within a wominous protocitori sirca

ST-5: potentially receives runoff from the adjacent road to the west of the feature GW-4: layer of muck present within the coniferous swamp component of the wetland Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Observed Potential Species/Habitat/Comments White-tailed deer Υ Songbirds Frogs Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

Section 1 Comments (Refer to Section 1 numbers)

HU-3: located along a gravel roadway WH-8: located in a large forested block WQ-4: associated with an ephemeral stream

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Thuja occidentalis			PFO	Abundant
Larix laricina			PFO	Common
Betula alleghaniensis			PFO	Common
llex verticillata			PFO	Common
Abies balsamea			PFO	Common
Rhododendron groenlandicum			PFO	Common
Vaccinium myrtilloides			PFO	Uncommon
Matteuccia struthiopteris			PFO	Uncommon
Carex disperma			PFO	Uncommon
Trientalis borealis			PFO	Uncommon
Coptis trifolia			PFO	Uncommon
Fraxinus nigra			PFO	Abundant
Acer saccharum			PFO	Common
Acer rubrum			PFO	Common
Glyceria striata			PFO	Common
Equisetum pratense			PFO	Uncommon
Carex crinita			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The wetland is comprised of hardwood swamp and coniferous swamp components. The vegetation is comprised of native species expected within each of the plant communities.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
` ,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
Х	Х		M	С	Point source or stormwater discharge
Х	Х		M	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
Х	Х		M	С	Roads or railroad
	Х		M	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is located along a maintained gravel road and impacted by potential runoff stres corridor present to the southwest of the wetland within the buffer area.	sors. There is a utility
contact present to the southwest of the wettand within the buner area.	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat		√			
Shoreline Protection		✓			
Flood and Stormwater Storage		✓			
Water Quality Protection		✓			
Groundwater Processes		✓			

FUNCTION	RATIONALE
Floristic Integrity	Unique habitat for the region, native vegetation
Human Use Values	Located along gravel road, unlikely to be used for recreation purposes
Wildlife Habitat	Part of a large forested block with potential for multiple species habitat
Fish and Aquatic Life Habitat	Large pockets of standing water present throughout the wetland
Shoreline Protection	Associated with an ephemeral stream
Flood and Stormwater Storage	Basin wetland, large size, potentially receives runoff from adjacent roadway
Water Quality Protection	Sparse vegetation within wetland, associated with a small stream
Groundwater Processes	Majority of input is from rain water, potential for extended saturation, organic soils present

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	nland	Sampling Date: 2019-10-05			
Applicant/Owner: Enbridge						
Investigator(s): NTT/ARK	Section, Township, Range: <u>044N-002W-08</u>					
Landform (hillslope, terrace, etc.): Talf						
Subregion (LRR or MLRA): Northcentral Forests L						
Soil Map Unit Name: Tula-Wormet-Gogebic of						
Are climatic / hydrologic conditions on the site typica	·	•				
Are Vegetation, Soil, or Hydrology _						
Are Vegetation, Soil, or Hydrology _						
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects	s, important features, etc.			
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sam	pled Area				
Hydric Soil Present? Yes	No <u>√</u> within a W	etland? Yes	No <u>√</u>			
		onal Wetland Site ID:				
Remarks: (Explain alternative procedures here or	in a separate report.)					
Sample recorded in a mesic hardy	vood forest.					
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)			
Primary Indicators (minimum of one is required; ch	eck all that apply)	Surface Soil	Cracks (B6)			
	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)			
	Aquatic Fauna (B13)	Moss Trim L				
	Marl Deposits (B15)	· · · · · · · · · · · · · · · · · · ·	Water Table (C2)			
	Hydrogen Sulfide Odor (C1)	Crayfish Bur				
	Oxidized Rhizospheres on Living		risible on Aerial Imagery (C9)			
	Presence of Reduced Iron (C4)Recent Iron Reduction in Tilled So		Stressed Plants (D1)			
1 -	Thin Muck Surface (C7)	· · · —	Position (D2)			
	Other (Explain in Remarks)	Shallow Aqu	aphic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Nemarks)	FAC-Neutra				
Field Observations:		1710 1104114	1 1 661 (50)			
	/ Depth (inches):					
	/ Depth (inches):					
	/ Depth (inches):	Wetland Hydrology Prese	nt? Yes No✓_			
(includes capillary fringe) Describe Recorded Data (stream gauge, monitorin		tions) if qualible.				
Describe Recorded Data (stream gauge, monitorin	ig weil, aeriai priotos, previous inspec	tions), if available:				
Remarks:						
No wetland hydrology indicators w	ere observed.					

VEGETATION – Use scientific names of plants.

Trop Stratum (Plataire: 201	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. Acer saccharum				That Are OBL, FACW, or FAC:1 (A)
2. <u>Tsuga canadensis</u>				Total Number of Dominant
3				Species Across All Strata:8(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 12.50 (A/B)
5				That Are OBL, FACW, or FAC: 12.50 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	75	= Total Cov	er er	OBL species0 x 1 =0
Sapling/Shrub Stratum (Plot size:)				FACW species0 x 2 =0
1. Acer saccharum	10	Y	<u>FACU</u>	FAC species x 3 =21
2. <u>Tilia americana</u>	5	<u>Y</u>	<u>FACU</u>	FACU species 105 x 4 = 420
3				UPL species 0 x 5 = 0 Column Totals: 112 (A) 441 (B)
4				Column Totals. 112 (A) 441 (B)
5				Prevalence Index = B/A = 3.94
6				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov		2 - Dominance Test is >50%
Herb Stratum (Plot size:5')		. 0.0.	·	3 - Prevalence Index is ≤3.0 ¹
1. Agrimonia striata	5	<u>Y</u>	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Acer saccharum		Y	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Pyrola elliptica		Y	FACU	
4. Rubus idaeus	_		FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Trientalis borealis			FAC	,
				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				Sapling/shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Cov	/er	height.
Woody Vine Stratum (Plot size: 30')		- Total Cov	GI	
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No/
		= Total Cov	ver	
Remarks: (Include photo numbers here or on a separate s Mesic hardwood forest that includes he species.		n the ca	nopy, b	ut sugar maple is the dominant
opooloo.				

Sampling Point: wase067f1_u

SOIL Sampling Point: wase067f1_u

Depth Matrix Redox Features (inches) Color (regist) (Color (regist) Property Color (regist) Property Color (regist) Property Color (regist) (red color (regist) Property Color (regist) Property Color (regist) Property Color (regist) (red color (regist) Property Color (regist) Property Color (regist) Property Color (regist) (red color (regist) Property Color (regist) Property Color (regist) Property Color (regist) (red color (regist) Property Color (regist) Property Color (regist) Property Color (regist) (red color (regist) Property Color (regist) Prope	
(inches) Color (moist) % Color (moist) % Type¹ Loc² Texture Remarks 0-6 7.5YR 3/3 100 CL	
6-20 <u>5YR 4/3 100</u> <u>SCL</u>	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils	
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 14	
Histic Epipedon (A2) MLRA 149B) Coast Prairie Redox (A16) (LRR K, L,	R)
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K L) Dark Surface (S7) (LRR K, L) Dark Surface (S7) (LRR K, L)	, L, R)
	, L)
Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L)	>
Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR I Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLR	
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145	
Sandy Redox (S5) Red Parent Material (F21)	
Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)	
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
Restrictive Layer (if observed):	
Type: Depth (inches): Hydric Soil Present? Yes No	1
Depth (inches): No Remarks:	
No hydric soil indicators were observed.	



wase067f1_u_E



wase067f1_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County:	Ashland	Sampling	Date: 2019-10-05
Applicant/Owner: Enbridge		Sta	te: WI Sampli	ing Point: wase067f2_u
Investigator(s): NTT/ARK	Section, Tow	nship, Range: <u>044N</u>	-002W-08	
Landform (hillslope, terrace, etc.): Talf	Local relief (con	cave, convex, none): 1	Vone	Slope (%): 0-2%
Subregion (LRR or MLRA): Northcentral Forests Lat				
Soil Map Unit Name: Gogebic, very stony-Pence, ve				
Are climatic / hydrologic conditions on the site typical f				
Are Vegetation, Soil, or Hydrology				Yes ✓ No
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach site n	nap snowing sampling	point locations,	ransects, import	ant features, etc.
	_ 110	Sampled Area		,
	NO <u></u>	a Wetland?	Yes No	<u> </u>
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or in		optional Wetland Site	D:	
HYDROLOGY				
Wetland Hydrology Indicators:			ndary Indicators (minir	
Primary Indicators (minimum of one is required; chec			Surface Soil Cracks (B	
	Water-Stained Leaves (B9) Aquatic Fauna (B13)		Orainage Patterns (B10 Moss Trim Lines (B16)	
	Marl Deposits (B15)		Ory-Season Water Tab	
	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)	(02)
	Oxidized Rhizospheres on L		Saturation Visible on A	erial Imagery (C9)
	Presence of Reduced Iron (0		Stunted or Stressed Pla	
Algal Mat or Crust (B4)	Recent Iron Reduction in Till	ed Soils (C6)	Geomorphic Position ([D2)
	Thin Muck Surface (C7)		Shallow Aquitard (D3)	
	Other (Explain in Remarks)		Microtopographic Relie	
Sparsely Vegetated Concave Surface (B8)		<u></u>	FAC-Neutral Test (D5)	
Field Observations:	Denth (Seekee)			
	Depth (inches):			
	_ Depth (inches): Depth (inches):		logy Present? Yes	No. /
(includes capillary fringe)		_	-	NO <u>V</u>
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous ir	spections), if available	•	
Remarks:				
No wetland hydrology indicators we	re observed.			
1				

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants.				Sampling Point: wase067f2_u
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Acer saccharum				Number of Dominant Species That Are OBL, FACW, or FAC:5(A)
2. Quercus rubra				
3				Total Number of Dominant Species Across All Strata:
4				Percent of Dominant Species
5.				That Are OBL, FACW, or FAC: 50.00 (A/B)
6.				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	47.5			OBL species
Sapling/Shrub Stratum (Plot size: 15')				FACW species0 x 2 =0
1. Quercus rubra	5	Υ	FACU	FAC species x 3 = 81
2.				FACU species <u>62.5</u> x 4 = <u>250</u>
3.				UPL species
4.				Column Totals: <u>89.5</u> (A) <u>331</u> (B)
5				Prevalence Index = B/A =3.70
6.				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	_	= Total Co		2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')		. 0.0		3 - Prevalence Index is ≤3.0 ¹
1. <u>Carex pedunculata</u>	5	Υ	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Acer saccharum				Problematic Hydrophytic Vegetation¹ (Explain)
3. Abies balsamea			FAC	
4. Rubus idaeus				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Symphyotrichum lateriflorum		Y		
6. Acer rubrum		Y	FAC	Definitions of Vegetation Strata:
7. Quercus rubra				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. Betula alleghaniensis			FAC	
0			1710	Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
·		= Total Co	er	height.
Woody Vine Stratum (Plot size:30')		- 10101 00		
1				
2.				
3				Hydrophytic
				Vegetation
4.				Present? Yes No _ ✓
4	0.0	= Total Co	ver	

SOIL Sampling Point: wase067f2_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	dicators.)
Depth	Matrix	0/		x Features	4	1 2	Taratras	Remarks
(inches) 0-9	Color (moist) 10YR 2/1	100	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks
9-20	5YR 3/4						SIC	
9-20	<u> </u>	_ 100_		· ——			SIC	
				· ——				
				· ———				
				·				
				·				
¹ Type: C=C	oncentration. D=De	 pletion. RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=	Pore Lining, M=Matrix.
Hydric Soil		<u>, , , , , , , , , , , , , , , , , , , </u>						roblematic Hydric Soils ³ :
Histoso			Polyvalue Below		(S8) (LRF	RR,		(A10) (LRR K, L, MLRA 149B) e Redox (A16) (LRR K, L, R)
	pipedon (A2) istic (A3)		Thin Dark Surfa		.RR R, MI	_RA 149B)		Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)		Loamy Mucky N			, L)		e (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surfa	ce (A11)	Loamy Gleyed Depleted Matrix)		·	elow Surface (S8) (LRR K, L) urface (S9) (LRR K, L)
-	ark Surface (A12)	00 (/ (1 1)	Redox Dark Su					nese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1)		Depleted Dark		7)			oodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4) Redox (S5)		Redox Depress	ions (F8)				ic (TA6) (MLRA 144A, 145, 149B) Material (F21)
Stripped	d Matrix (S6)						Very Shallov	w Dark Surface (TF12)
Dark Su	ırface (S7) (LRR R,	MLRA 149B)				Other (Expla	ain in Remarks)
			tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):						
Type:							Hydric Soil Bros	ent? Yes No <u>√</u>
Depth (in Remarks:	ches):						riyuric 3011 Fres	ent: 165 NO_ <u>V</u>
	c soil indicate	rs obser	ved.					



wase067f2_u_E



wase067f2_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project	City/0	County: Ashland		Sampling Date: 2019-10-05
	•				_ Sampling Point: wase071f_w
Investigator(s): NTT/ARK					
- ' '			·		Slope (%): <u>0-2%</u>
					Datum: WGS84
					ation:
Are climatic / hydrologic conditi					
		•			resent? Yes✓ No
Are Vegetation, Soil					
SUMMARY OF FINDING	iS – Attach sit	te map showing sar	npling point locati	ons, transects	important features, etc.
Hydrophytic Vegetation Prese	ent? Yes	✓ No	Is the Sampled Area		
Hydric Soil Present?		✓ No	within a Wetland?	Yes <u>√</u>	No
Wetland Hydrology Present?		✓ No	If yes, optional Wetlan	d Site ID:	
Remarks: (Explain alternative Slight depression, m	eprocedures here on arginally wet	or in a separate report.) t and likely only w	ith brief saturation	on in the sprii	na
Oligini depression, m	larginally wet	and intery offing w	illi bilci salarali	on in the opin	19.
HYDROLOGY					
Wetland Hydrology Indicato	rs:			Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum	of one is required; of	check all that apply)		Surface Soil	Cracks (B6)
Surface Water (A1)		Water-Stained Leave	es (B9)	Drainage Pat	
High Water Table (A2)		Aquatic Fauna (B13)		Moss Trim Li	
Saturation (A3)		Marl Deposits (B15)		Dry-Season \	Vater Table (C2)
Water Marks (B1)		Hydrogen Sulfide Od	dor (C1)	Crayfish Burr	ows (C8)
Sediment Deposits (B2)			=	Saturation Vi	sible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduce			ressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction		Geomorphic	
Iron Deposits (B5)		Thin Muck Surface (Shallow Aqui	
Inundation Visible on Aer		Other (Explain in Re	marks)	Microtopogra	
Sparsely Vegetated Cond	ave Surface (B8)			✓ FAC-Neutral	Test (D5)
Surface Water Present?	Voc. No.	✓ Depth (inches):			
Water Table Present?		✓ Depth (inches):			
Saturation Present?		✓ Depth (inches):		Hydrology Presen	t? Yes <u>√</u> No
(includes capillary fringe)					res ne
Describe Recorded Data (stre	am gauge, monitor	ring well, aerial photos, pro	evious inspections), if av	ailable:	
Remarks:					
Feature likely with a	saturated hy	drologic regime.			
	-				

VEGETATION – Use scientific names of plants.

/EGETATION – Use scientific names of plants	•			Sampling Point: <u>wase071f_v</u>
Tree Stratum (Plot size:30')	Absolute % Cover	Dominant Species?		Dominance Test worksheet:
1. Quercus rubra	25	Υ	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:6 (A)
2. <u>Ulmus americana</u>				
3.				Total Number of Dominant Species Across All Strata:
4				Percent of Dominant Species
5.				That Are OBL, FACW, or FAC: 85.71 (A/B)
6				
7				Prevalence Index worksheet:
		= Total Co		
Sapling/Shrub Stratum (Plot size: 15')		- 10101 00	VCI	FACW species 45 x 2 = 90
1. <u>Ulmus americana</u>	10	V	EACW/	FAC species 0 x3 = 0
				FACU species x 4 = 100
2				UPL species0 x 5 =0
3				Column Totals:80 (A)200 (B)
4				Prevalence Index = B/A = 2.50
5.				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	10	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting
1. Carex crinita			OBL	data in Remarks or on a separate sheet)
2. Juncus effusus	_ 5	<u>Y</u>	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Equisetum pratense</u>	5	Y	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Onoclea sensibilis</u>	5	<u>Y</u>	FACW	be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')		- 10tai 00	VOI	
1				
2				
3				Hydrophytic Vegetation
4		= Total Co		Present? Yes _ ✓ No

SOIL Sampling Point: wase071f_w

Depth (inches)
0-8 10YR 2/1 100 CL
8-20 TOTR 4/T 95 7.5TR 5/6 5 C W C
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)
Black Histic (A3)
✓ Depleted Below Dark Surface (A11) ✓ Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L)
Thick Dark Surface (A12)
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
Sandy Redox (S5) Red Parent Material (F21)
Stripped Matrix (S6) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observed):
Type: Depth (inches):
Remarks: Depleted matrix with redox concentrations.



wase071f_w_NW



wase071f_w_SE

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): NTT/ARK	
File #: wase071	Date of visit(s): 10/05/2019	
Location: PLSS: 044N-002W-08	Ecological Landsca North Central Forest	ape:
Lat: 46.304104 Long: -90.65059	Watershed: LS14, Upper Bad River	
County: <u>Ashland</u> Town/City/Village: Morse town		
SITE DESCRIPTION		
Soils: Mapped Type(s):	WWI Class: N/A	
5172C, Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes	Wetland Type(s): PFO - Hardwood	d swamp
Field Verified:		
Series not verified. Soils were clay loam above clay.	Wetland Size: 0.10	Wetland Area Impacted 0.10
	Vegetation: Plant Community D	Description(s):
Hydrology: The feature is located within a slight depression with a saturated hydrologic regime. The feature is marginally wet and likely saturated only briefly in the spring.	nearby an old lo dominated by Q	hardwood swamp located gging road. The canopy is uercus rubra and Ulmus a sparse ground cover.

SITE MAP		

SECTION 1: Functional Value Assessment

	SECTION 1: Functional Value Assessment								
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty						
1	Ζ	Ν	Used for recreation (hunting, birding, hiking, etc.). List:						
2	N	N	Used for educational or scientific purposes						
3	Υ	Υ	Visually or physically accessible to public						
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation						
			In or adjacent to RED FLAG areas						
5	N	N	List:						
6	N	N	Supports or provides habitat for endangered, threatened or special concern species						
7			In or adjacent to archaeological or cultural resource site						
WH			Wildlife Habitat						
1	N	N	Wetland and contiguous habitat >10 acres						
2	Y	Y	3 or more strata present (>10% cover)						
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area						
4	Y	Y	100 m buffer – natural land cover ≥50%(south) 75% (north) intact						
5	N	N	Occurs in a Joint Venture priority township						
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)						
0	IN	IN	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other						
7	Υ	Υ	plans						
8	Υ	Υ	Part of a large habitat block that supports area sensitive species						
9			Ephemeral pond with water present > 45 days						
\vdash	N	N	Standing water provides habitat for amphibians and aquatic invertebrates						
10	N	N							
11	N	N	Seasonally exposed mudflats present						
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)						
FA			Fish and Aquatic Life Habitat						
1	N	N	Wetland is connected or contiguous with perennial stream or lake						
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates						
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system						
4	N	N	Vegetation is inundated in spring						
SP			Shoreline Protection						
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable						
2	NA	NA	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating						
			water levels or high flows – if no, not applicable						
3	NA	NA	Densely rooted emergent or woody vegetation						
ST			Storm and Floodwater Storage						
1	Υ	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream						
2	N	N	Water flow through wetland is NOT channelized						
3	N	N	Dense, persistent vegetation						
4	N	N	Evidence of flashy hydrology						
5	N	N	Point or non-point source inflow						
6	Ν	N	Impervious surfaces cover >10% of land surface within the watershed						
7	Ν	Ν	Within a watershed with <10% wetland						
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event						
WQ			Water Quality Protection						
1	N	N	Provides substantial storage of storm and floodwater based on previous section						
2	Υ	Υ	Basin wetland or constricted outlet						
3	N	N	Water flow through wetland is NOT channelized						
4	N	N	Vegetated wetland associated with a lake or stream						
5	N	N	Dense, persistent vegetation						
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth						
7	N	N	Stormwater or surface water from agricultural land is major hydrology source						
8	N	N	Discharge to surface water						
9	N	N	Natural land cover in 100m buffer area < 50%						
GW	1.4	1.4	Groundwater Processes						
1	N	N.I	Springs, seeps or indicators of groundwater present						
		N							
2	N	N	Location near a groundwater divide or a headwater wetland						
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs						
4 5	N	N	Wetland soils are organic						
	N	N	Wetland is within a wellhead protection area						

		nments (Refer to Section 1 numbers)
	arge mesic hardwoo	with three strata represented d forest
		at and Species Observation (including amphibians and reptiles)
	st: direct of nter, etc.	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
Υ	Y	Songbirds
	Y	Whitetail deer
Fis	sh and Aqua	atic Life Habitat and Species Observations
Lis	st: direct of	oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Quercus rubra			PFO	Common
Ulmus americana			PFO	Common
Carex crinita			PFO	Uncommon
Juncus effusus			PFO	Uncommon
Equisetum pratense			PFO	Uncommon
Onoclea sensibilis			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

There is a sparsely vegetated ground layer covered in Carex crinita and Juncus effusus, with a canopy of Quercus rubra and Ulmus americana.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
V	V	V	N 4	0	Removal of tree or shrub strata – logging,
X	X	X	M	С	unprescribed fire
Х	Х		М	С	Human trails – unpaved
					Human trails – paved
Х	Х		М	С	Removal of large woody debris
					Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):
					, ,

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

	The wetland is located within a logged area and an old logging road is present nearby.
L	

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat	√				
Shoreline Protection					√
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Low invasive species cover, overall diversity is low
Human Use Values	Nearby logging activity
Wildlife Habitat	Large block of mesic hardwood forest
Fish and Aquatic Life Habitat	No standing water throughout
Shoreline Protection	N/A
Flood and Stormwater Storage	Located in a depressional basin
Water Quality Protection	Sparsely vegetated
Groundwater Processes	Recharge wetland

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-10-05
Applicant/Owner: Enbridge		State: WI	_ Sampling Point: wase071_u
Investigator(s): NTT/ARK	Section, Townshi	p, Range: <u>044N-002W-0</u>	8
Landform (hillslope, terrace, etc.): Talf	Local relief (concave	, convex, none): None	Slope (%): <u>0-2%</u>
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Gogebic, very stony-Pence			
Are climatic / hydrologic conditions on the site typi	cal for this time of year? Yes✓	No (If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" pr	resent? Yes No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answers	s in Remarks.)
SUMMARY OF FINDINGS - Attach sit	e map showing sampling po	int locations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the San	npled Area	
Hydric Soil Present? Yes	No <u>√</u> within a W	Vetland? Yes	_ No <u>√</u>
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here of Upland sample point recorded in		<u> </u>	
Opiana sample point recorded in	a mesic naruwood system	11.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)
Primary Indicators (minimum of one is required;	check all that apply)	Surface Soil 0	Cracks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patt	erns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lir	nes (B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season V	Vater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burro	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living		sible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)		ressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled S		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquit	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)		phic Relief (D4)
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutral	Test (D5)
	✓ Depth (inches):		
	✓ Depth (inches):		
	✓ Depth (inches):	Wetland Hydrology Present	? Yes No /
(includes capillary fringe)			103 NO
Describe Recorded Data (stream gauge, monitor	ring well, aerial photos, previous inspec	ctions), if available:	
Remarks:			
No indicators of wetland hydrolog	gy were observed.		

VEGETATION – Use scientific names of plants.

				Sampling Point: <u>wase071_u</u>		
Tree Stratum (Plot size:)	Absolute % Cover		t Indicator Status	Dominance Test worksheet:		
1. Acer saccharum				Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)		
Betula papyrifera			FACU			
3. <u>Betula alleghaniensis</u>				Total Number of Dominant Species Across All Strata:4 (B)		
4						
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 25.00 (A/B)		
6						
				Prevalence Index worksheet:		
7		= Total Co		Total % Cover of: Multiply by:		
Conline / Chrysh Ctreature / Diet eizer 15'		= Total CC	ivei	OBL species 0 x 1 = 0 FACW species 0 x 2 = 0		
Sapling/Shrub Stratum (Plot size:15')	05	V	EACH	FAC species x3 = 75		
1. Acer saccharum				FACU species 135 x 4 = 540		
2. <u>Abies balsamea</u>				UPL species0 x 5 =0		
3				Column Totals: <u>160</u> (A) <u>615</u> (B)		
4				Prevalence Index = B/A = 3.84		
5				,		
6				Hydrophytic Vegetation Indicators:		
7				1 - Rapid Test for Hydrophytic Vegetation		
	35	= Total Co	over	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹		
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting		
1. <u>Acer saccharum</u>	50	Y	<u>FACU</u>	data in Remarks or on a separate sheet)		
2. <i>Matteuccia struthiopteris</i>	5	N	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
3				The disease of booking and an alternative to the second		
4				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
5				Definitions of Vegetation Strata:		
6						
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
8						
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
10				Herb – All herbaceous (non-woody) plants, regardless		
11				of size, and woody plants less than 3.28 ft tall.		
12				Woody vines – All woody vines greater than 3.28 ft in		
12.	55	= Total Co	nvor.	height.		
		= 10tal 0t	, vei			
Moody Vino Stratum (Plot size: 30')						
1						
1 2						
Woody Vine Stratum (Plot size:				Hydrophytic Vegetation		
1 2				Hydrophytic Vegetation Present? Yes No _ ✓		

SOIL Sampling Point: wase071_u

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of	indicators.)
Depth	Matrix	0/		x Features	4	Loc ²	Taratrana	Demode
(inches)	Color (moist) 10YR 3/3	100	Color (moist)	%	Type'	LOC	Texture	Remarks
6-20		100					SL	
020	0111 1/0	100						
		- ·						
				·				
		- ·						
¹ Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: F	PL=Pore Lining, M=Matrix.
Hydric Soil					(00) (1.0)	_	Indicators fo	r Problematic Hydric Soils ³ :
Histosol	i (A1) pipedon (A2)	,	Polyvalue Below MLRA 149B)		(S8) (LRI	RR,		ck (A10) (LRR K, L, MLRA 149B) airie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N					cky Peat or Peat (S3) (LRR K, L, R)
	d Layers (A5)		Loamy Gleyed			, ∟)		face (S7) (LRR K, L) e Below Surface (S8) (LRR K, L)
-	d Below Dark Surfac ark Surface (A12)	e (A11)	Depleted MatrixRedox Dark Su					s Surface (S9) (LRR K, L) ganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Redox Dark Su Depleted Dark S		7)			t Floodplain Soils (F19) (MLRA 149B)
Sandy 0	Gleyed Matrix (S4)		Redox Depress				Mesic Sp	odic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) d Matrix (S6)							ent Material (F21) Ilow Dark Surface (TF12)
	urface (S7) (LRR R, I	MLRA 149B)					xplain in Remarks)
³ Indicators o	f hydrophytic vegeta	tion and we	tland hydrology mus	st be prese	ent, unless	s disturbed	or problematic.	
	Layer (if observed)							
Type:	chos):						Hydric Soil Pr	resent? Yes No _√_
Remarks:	ches):						1.,	
	c soil indicato	rs were	observed.					



wase071_u_NW



wase071_u_SE

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Proiect	<u> </u>	City/Cour	nty: Ash	land		Sampling Date	2019-10-05
Applicant/Owner: Enbridge	•							
Investigator(s): NTT/ARK								
Landform (hillslope, terrace, etc					-			
Subregion (LRR or MLRA): No								
Soil Map Unit Name: Worm								
Are climatic / hydrologic conditi	•							
Are Vegetation, Soil								/ No
								<u>v</u> 110
Are Vegetation, Soil								
SUMMARY OF FINDING	S – Attach sit	te m	nap showing sampli	ing poi	nt locatio	ons, transects	s, important f	eatures, etc.
Hydrophytic Vegetation Prese	ent? Yes	✓	Is	the Sam	pled Area			
Hydric Soil Present?	Yes		No wi	ithin a We	etland?	Yes <u>√</u>	No	_
Wetland Hydrology Present?				yes, optio	nal Wetland	Site ID:		
Remarks: (Explain alternative	e procedures here	or in	a separate report.)	currou	ndod by	, a masia ha	ordwood co	mmunity
Small wet forest loca	ated in a dep	res	Sional Dasin and	Surrou	naea by	a mesic na	arawooa co	minumity.
HYDROLOGY								
Wetland Hydrology Indicate	ors:					Secondary Indica	ators (minimum c	of two required)
Primary Indicators (minimum		chec	k all that apply)			Surface Soil	•	•
Surface Water (A1)			Water-Stained Leaves (B			Drainage Pa		
High Water Table (A2)			Aquatic Fauna (B13)	,		Moss Trim L		
Saturation (A3)			Marl Deposits (B15)			Dry-Season		2)
Water Marks (B1)			Hydrogen Sulfide Odor (0	C1)		Crayfish Bui		,
Sediment Deposits (B2)			Oxidized Rhizospheres of		Roots (C3)	-		magery (C9)
Drift Deposits (B3)		_	Presence of Reduced Iro	n (C4)		Stunted or S	Stressed Plants ([D1)
Algal Mat or Crust (B4)			Recent Iron Reduction in	Tilled So	ils (C6)	Geomorphic	Position (D2)	
Iron Deposits (B5)		_	Thin Muck Surface (C7)			Shallow Aqu	itard (D3)	
Inundation Visible on Aer	rial Imagery (B7)	_	Other (Explain in Remark	ks)		Microtopogra	aphic Relief (D4)	
Sparsely Vegetated Cond	cave Surface (B8)					✓ FAC-Neutra	l Test (D5)	
Field Observations:								
Surface Water Present?	Yes No _	✓	Depth (inches):					
Water Table Present?			Depth (inches):					
Saturation Present? (includes capillary fringe)	Yes No _	✓	Depth (inches):		Wetland F	lydrology Prese	nt? Yes <u>√</u>	_ No
Describe Recorded Data (stre	eam gauge, monitor	ring v	well, aerial photos, previou	us inspect	ions), if ava	ilable:		
,		Ü		·	,.			
Remarks:	ه م منطنید امم		an ally a atymata d	haain				
The wetland is locat	ed within a s	eas	sonally saturated	basın.				

VEGETATION – Use scientific names of plants.

				Sampling Point: wase070f_w
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus nigra</u>				Number of Dominant Species That Are OBL, FACW, or FAC:5(A)
2. Acer saccharum			FACU	
3. Abies balsamea				Total Number of Dominant Species Across All Strata: (B)
4.				Percent of Dominant Species
5.				That Are OBL, FACW, or FAC: 83.33 (A/B)
6.				
7				Prevalence Index worksheet:
	57.5			OBL species10 x1 =10
Sapling/Shrub Stratum (Plot size:15')	01.0	- 10101 00		FACW species 42.5 x 2 = 85
1. Abies balsamea	5	Y	FΔC	FAC species <u>25</u> x 3 = <u>75</u>
2. Acer saccharum				FACU species15 x 4 =60
				UPL species0 x 5 =0
3				Column Totals: <u>92.5</u> (A) <u>230</u> (B)
4				Prevalence Index = B/A =2.49
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	<u>10</u>	= Total Co	ver	✓ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting
1. Carex crinita		<u>Y</u>	OBL	data in Remarks or on a separate sheet)
2. Athyrium angustum	10	<u>Y</u>	<u>FAC</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Equisetum pratense</u>	5	Y	<u>FACW</u>	¹ Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9		·		and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
		= Total Co	ver	height.
Woody Vine Stratum (Plot size:)				
(ist size:				
1				
1				
2				Hudranhudia
2				Hydrophytic Vegetation
2				Hydrophytic Vegetation Present? Yes ✓ No

SOIL Sampling Point: wase070f_w

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix	0/		x Features		1.2.2	Tanduna	Damada
(inches) 0-4	Color (moist) 10YR 2/1	100	Color (moist)	%	Type'	Loc ²	Texture MMI	Remarks loamy
4-10	10YR 2/1	100					CL	loanry
	5YR 3/3						C	
				·				
				·				
				·				
				·				
				· ——				
				·				
¹ Type: C=C	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	2Location	n: PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators:	,					Indicators	s for Problematic Hydric Soils ³ :
Histosol Histic E	(A1) pipedon (A2)		Polyvalue Belov MLRA 149B)		(S8) (LRF	RR,		Muck (A10) (LRR K, L, MLRA 149B) : Prairie Redox (A16) (LRR K, L, R)
Black H	istic (A3)	•	Thin Dark Surfa				5 cm l	Mucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		✓ Loamy Mucky N — Loamy Gleyed I			, L)		Surface (S7) (LRR K, L) alue Below Surface (S8) (LRR K, L)
-	d Below Dark Surface	e (A11)	Depleted Matrix					Dark Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Su Depleted Dark S		7)			Manganese Masses (F12) (LRR K, L, R) nont Floodplain Soils (F19) (MLRA 149B)
Sandy 0	Gleyed Matrix (S4)		Redox Depress		,		Mesic	Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5) d Matrix (S6)							Parent Material (F21) Shallow Dark Surface (TF12)
	rface (S7) (LRR R, N	ILRA 149B)					(Explain in Remarks)
	f hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problemati	c.
Type:	Layer (if observed):							
'' -	ches):						Hydric Soi	I Present? Yes No
Remarks:							l	
Wiucky II	nineral soils at	the sur	iace.					



wase070f_w_NE



wase070f_w_SW

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): NTT/ARK		
File #: wase070	Date of visit(s): 10/05/2019		
Location: PLSS: 044N-002W-08	Ecological Landsca North Central Forest	ape:	
Lat: 46.303151 Long: -90.648909 County: Ashland Town/City/Village: Morse town	Watershed: LS14, Upper Bad River		
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
815A, 5172C, Wormet sandy loam, 0 to 3 percent slopes, Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes Field Verified:	Wetland Type(s): PFO - Hardwood swamp		
Series not verified. Soils were loam above clay loam above clay.	Wetland Size: 0.01	Wetland Area Impacted 0.01	
Hydrology: The feature is located within a depressional basin with a seasonally saturated hydrologic regime.	Vegetation: Plant Community Description(s): The wetland is a hardwood swamp located in a heavily logged area along an old logging road. The canopy is dominated by Fraxinus nigra and Abies balsamea, and Carex crinita is present throughout the wetland.		

SITE MAP		

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	Ζ	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	Υ	Υ	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
			In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	- 11	IN	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	Υ	Υ	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3		·	Within or adjacent to habitat corridor or established wildlife habitat area
4	N Y	N	100 m buffer – natural land cover ≥50%(south) 75% (north) intact
		Y	
5	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	Υ	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	Υ	Υ	Part of a large habitat block that supports area sensitive species
9	N	N	Ephemeral pond with water present <u>> 45 days</u>
10	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	Ν	N	Wetland is connected or contiguous with perennial stream or lake
2	N	N	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	N	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST	14/ (14/ (Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	N	N	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4			Evidence of flashy hydrology
—	N	N	Point or non-point source inflow
5	N	N	
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with ≤10% wetland
8	N	N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			Water Quality Protection
1	N	N	Provides substantial storage of storm and floodwater based on previous section
2	Υ	Υ	Basin wetland or constricted outlet
3	N	N	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N	N	Dense, persistent vegetation
6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Ν	N	Stormwater or surface water from agricultural land is major hydrology source
8	N	N	Discharge to surface water
9	N	N	Natural land cover in 100m buffer area < 50%
GW			Groundwater Processes
1	N	N	Springs, seeps or indicators of groundwater present
2			Location near a groundwater divide or a headwater wetland
3	N	N	Wetland remains saturated for an extended time period with no additional water inputs
\vdash	N	N	
4 5	N	N	Wetland soils are organic
ו ה	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: located near an old logging road
ST-1: basin wetland located within a heavily logged forest
WH-2: multiple strata represented, dominated by Fraxinus nigra WH-8: located within a large forested block Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Potential Observed Species/Habitat/Comments White-tailed deer Υ Songbirds Frogs Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3√	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Common
Acer saccharum			PFO	Common
Abies balsamea			PFO	Common
Carex crinita			PFO	Common
Athyrium angustum			PFO	Common
Equisetum pratense			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

There is low diversity within the wetland. The vegetation is comprised of native species expected within the plant community at a disturbed site.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor		
,					Filling, berms (non-impounding)		
					Drainage – tiles, ditches		
					Hydrologic changes - high capacity wells,		
					impounded water, increased runoff		
					Point source or stormwater discharge		
					Polluted runoff		
					Pond construction		
					Agriculture – row crops		
					Agriculture – hay		
					Agriculture – pasture		
					Roads or railroad		
					Utility corridor (above or subsurface)		
					Dams, dikes or levees		
					Soil subsidence, loss of soil structure		
					Sediment input		
V	Х		М		Removal of herbaceous stratum – mowing,		
X	^		IVI	С	grading, earthworms, etc.		
Х	Х	Х	Н	С	Removal of tree or shrub strata – logging,		
^	^	^	П	C	unprescribed fire		
	Χ		М	С	Human trails – unpaved		
					Human trails – paved		
					Removal of large woody debris		
Χ	Χ		Н	С	Cover of non-native and/or invasive species		
					Residential land use		
					Urban, commercial or industrial use		
					Parking lot		
					Golf course		
					Gravel pit		
					Recreational use (boating, ATVs, etc.)		
					Excavation or soil grading		
					Other (list below):		

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is disturbed due to logging activities, and logging roads are present throughout the buffer area.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity	√				
Human Use Values	√				
Wildlife Habitat		✓			
Fish and Aquatic Life Habitat	√				
Shoreline Protection					√
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Low diversity, disturbed due to logging
Human Use Values	Located in a logged forest, potential for recreational hunting
Wildlife Habitat	Part of a large forested block with potential for multiple species habitat
Fish and Aquatic Life Habitat	No water present throughout the depression
Shoreline Protection	N/A
Flood and Stormwater Storage	Small basin wetland
Water Quality Protection	Sparse vegetation within wetland
Groundwater Processes	Majority of input is from rain water

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Asl	nland	Sampling Date: 2019-10-05			
Applicant/Owner: Enbridge						
Investigator(s): NTT/ARK	Section, Township	o, Range: <u>044N-002W-</u>	08			
Landform (hillslope, terrace, etc.): Talf						
Subregion (LRR or MLRA): Northcentral Forests Lat						
Soil Map Unit Name: Wormet sandy loam, (
Are climatic / hydrologic conditions on the site typical f	·					
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site n	nap showing sampling poi	nt locations, transects	s, important features, etc.			
Hydrophytic Vegetation Present? Yes	No✓ Is the Sam					
	No ✓ within a W	etland? Yes	No <u>√</u>			
		onal Wetland Site ID:				
Remarks: (Explain alternative procedures here or in Sample point recorded in a mesic h	a separate report.)	cludes both conifor	oue and dociduous			
species.	aruwoou system mat m	ciddes botti corillert	ous and deciduous			
species.						
HYDROLOGY						
Wetland Hydrology Indicators:		· · · · · · · · · · · · · · · · · · ·	ators (minimum of two required)			
Primary Indicators (minimum of one is required; chec						
	Water-Stained Leaves (B9)) Drainage Patterns (B10) Moss Trim Lines (B16)				
	Aquatic Fauna (B13) Marl Deposits (B15)	Moss Tilli Lines (B16) Dry-Season Water Table (C2)				
	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)				
	Oxidized Rhizospheres on Living					
	Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)	lecent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)					
	Thin Muck Surface (C7)					
	Other (Explain in Remarks)					
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	I Test (D5)			
Field Observations:	D 4 ()					
	Depth (inches):					
	Depth (inches):	Wotland Hydrology Proso	nt? Yes No √			
(includes capillary fringe)	_ , , , _	, ,	iit: ies No_v			
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspec	tions), if available:				
Remarks:						
No wetland hydrology indicators ob	served.					

VEGETATION – Use scientific names of plants.

			Sampling Point: <u>wase070_u</u>		
Absolute % Cover	Dominant Species?		Dominance Test worksheet:		
37.5	Y	<u>FACU</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)		
15	Y	<u>FACU</u>	Total Number of Dominant		
			Species Across All Strata:		
			Percent of Dominant Species		
			That Are OBL, FACW, or FAC: 40.00 (A/B)		
			Prevalence Index worksheet:		
			Total % Cover of: Multiply by:		
52.5	= Total Co	ver	OBL species0 x 1 =0		
			FACW species0 x 2 =0		
10	Υ	FAC	FAC species17 x 3 =51		
			FACU species <u>57.5</u> x 4 = <u>230</u>		
			UPL species0 x 5 =0		
			Column Totals: <u>74.5</u> (A) <u>281</u> (B)		
			Prevalence Index = B/A = 3.77		
			Hydrophytic Vegetation Indicators:		
			1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%		
20	= Total Co	ver	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹		
			4 - Morphological Adaptations ¹ (Provide supporting		
2	N	FAC	data in Remarks or on a separate sheet)		
			Problematic Hydrophytic Vegetation ¹ (Explain)		
			1		
			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
			Definitions of Vegetation Strata:		
			Tree – Woody plants 3 in. (7.6 cm) or more in diameter		
			at breast height (DBH), regardless of height.		
			Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
			Woody vines – All woody vines greater than 3.28 ft in height.		
2	= Total Co	ver			
			Hydrophytic		
			Tiyaropiiyao		
			Vegetation Present? Yes No _ ✓		
		15 Y 52.5 = Total Cov 10 Y 5 Y 5 Y 20 = Total Cov 2 N			

SOIL Sampling Point: wase070_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indic	cators.)	
Depth	Matrix Color (moist)	<u></u> %	Redo Color (moist)	x Features	Type ¹	Loc ²	Texture	Remarks	
(inches)	10YR 2/1	100	Color (moist)	%	туре	LOC	CI	Remarks	
7-14	10YR 3/1	100							
		100					SCL		
		100							
		 , -		· 					
									
				· 					
	-			·					
¹ Type: C=C	oncentration, D=Depl	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gr	ains.	² Location: PL=Po	ore Lining, M=Matrix.	
Hydric Soil	Indicators:	,					Indicators for Pro	blematic Hydric Soils ³ :	
Histoso	l (A1) pipedon (A2)		Polyvalue Belov MLRA 149B)		(S8) (LRI	RR,		10) (LRR K, L, MLRA 149B) Redox (A16) (LRR K, L, R)	
Black H	istic (A3)		Thin Dark Surfa	ice (S9) (L			5 cm Mucky Pe	eat or Peat (S3) (LRR K, L, R)	
	en Sulfide (A4) d Layers (A5)	-	Loamy Mucky N Loamy Gleyed I			, L)		S7) (LRR K, L) ow Surface (S8) (LRR K, L)	
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)	,		Thin Dark Surf	ace (S9) (LRR K, L)	
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Su Depleted Dark S				-	se Masses (F12) (LRR K, L, R) dplain Soils (F19) (MLRA 149B)	
-	Gleyed Matrix (S4)		Redox Depress		')		Mesic Spodic (TA6) (MLRA 144A, 145, 149B)		
-	Redox (S5)						Red Parent Ma		
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B)				Other (Explain	Dark Surface (TF12) in Remarks)	
	f hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.		
Type:	Layer (if observed):								
'' -	ches):						Hydric Soil Presen	t? Yes No <u>√</u>	
Remarks:							<u> </u>		
No hydri	c soil indicator	s obser	ved.						



wase070_u_N



wase070_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sampling Date: 2019-09-28
Applicant/Owner: Enbridge	State: WI Sampling Point: wasa122f_w1
Investigator(s): NTT/DGL	Section, Township, Range: 044N-002W-08
Landform (hillslope, terrace, etc.): Depression L	ocal relief (concave, convex, none): Concave Slope (%): 0-2%
	01 Long: -90.647870 Datum: WGS84
	ro complex, 0 to 18 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of \boldsymbol{y}	year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significant	y disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally p	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area
Hydric Soil Present? Yes ✓ No	
Wetland Hydrology Present? Yes No	
Remarks: (Explain alternative procedures here or in a separate rep	ort.)
Depressional wet forest feature; this portion d	ominated by black asn.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained	
High Water Table (A2) Aquatic Fauna	
Saturation (A3) Marl Deposits	
Water Marks (B1) Hydrogen Sul	
	cospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of F	
	deduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Su	. ,
Inundation Visible on Aerial Imagery (B7) Other (Explain	
Sparsely Vegetated Concave Surface (B8) Field Observations:	FAC-Neutral Test (D5)
Surface Water Present? Yes No _✓ Depth (inche	e)·
Water Table Present? Yes No Depth (inche	
Saturation Present? Yes No _ ✓ Depth (inche	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspections), if available:
Remarks:	
Feature with seasonal saturation.	

VEGETATION – Use scientific names of plants.

50	Species? Y N	· ——	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5	_N	_FAC_	That Are OBL, FACW, or FAC:3 (A) Total Number of Dominant Species Across All Strata:3 (B) Percent of Dominant Species
			Total Number of Dominant Species Across All Strata: Bercent of Dominant Species 3 (B)
		· ——	Species Across All Strata:3 (B) Percent of Dominant Species
			That Are OBL, FACW, or FAC:
			Prevalence Index worksheet:
<u>55</u> :			Total % Cover of: Multiply by:
	= Total Co	ver	OBL species <u>25</u> x 1 = <u>25</u>
			FACW species65 x 2 =130
			FAC species x 3 = 45
			FACU species 0 x 4 = 0
			UPL species $0 \times 5 = 0$ Column Totals: 105×6 (A) 200×6 (B)
			Prevalence Index = B/A =1.90
			Hydrophytic Vegetation Indicators:
			_/ 1 - Rapid Test for Hydrophytic Vegetation
.0_=	= Total Co	ver	✓ 2 - Dominance Test is >50%
			 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
<u> 25 </u>	Y	OBL	data in Remarks or on a separate sheet)
10	Y	<u>FACW</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
5	N	FAC	¹ Indicators of hydric soil and wetland hydrology must
5	N	FAC	be present, unless disturbed or problematic.
5	N	<u>FACW</u>	Definitions of Vegetation Strata:
			Tree – Woody plants 3 in. (7.6 cm) or more in diameter
			at breast height (DBH), regardless of height.
			Sapling/shrub – Woody plants less than 3 in. DBH
			and greater than or equal to 3.28 ft (1 m) tall.
			Herb – All herbaceous (non-woody) plants, regardless
			of size, and woody plants less than 3.28 ft tall.
			Woody vines – All woody vines greater than 3.28 ft in
<u>50 </u>	= Total Co	ver	height.
			Hydrophytic
			Vegetation Present? Yes No
.0_=	= Total Co	ver	100 <u>,</u> 100 <u></u>
	0.0 25 10 5 5 5 5 0.0	0.0 = Total Co 25	25

SOIL Sampling Point: wasa122f_w1

Profile Desc	ription: (Describe t	to the dept	n needed to docun	nent the	indicator	or confirm	the absence	of indicators.)
Depth	Matrix		Redox	x Feature	s1	. 2	_	
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-20	<u>10YR 2/1</u>	100		-			M	
				-				
				-				
				'				_
1 _{T. max} 0 0			Dadusad Matrix MC	Maalaa			21	DI Dava Lining M Matrix
Hydric Soil	oncentration, D=Depl	etion, Rivi=	Reduced Matrix, MS	=iviasked	Sand Gr	ains.		PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
/ Histosol			Polyvalue Belov	v Surface	(S8) (I RI	R R		uck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)	-	MLRA 149B)		(00) (211	,		Prairie Redox (A16) (LRR K, L, R)
Black Hi		_	Thin Dark Surfa		RR R, M	LRA 149B)		ucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky M			, L)		urface (S7) (LRR K, L)
	d Layers (A5)	-	Loamy Gleyed N		2)			ue Below Surface (S8) (LRR K, L)
	d Below Dark Surface ark Surface (A12)	e (A11) _	Depleted Matrix					ark Surface (S9) (LRR K, L)
	fucky Mineral (S1)	-	Redox Dark Sur Depleted Dark S					anganese Masses (F12) (LRR K, L, R) ont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)	-	Redox Depressi		')			Spodic (TA6) (MLRA 144A, 145, 149B)
	tedox (S5)	-		(- /				rent Material (F21)
-	Matrix (S6)							nallow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, N	ILRA 149B)				Other (Explain in Remarks)
31	Charles who discuss as total		la a di baadaa la aa aa aa aa			a alla Guale a al		
	f hydrophytic vegetat Layer (if observed):		iana nyarology mus	t be pres	ent, unies:	s disturbed	or problematic.	•
	Layer (II Observeu).							
Type:							Hydria Sail I	Present? Yes ✓ No
	ches):						Hydric Soil	Present? Fesv NO
Remarks:	or of blook man	ماد						
Solid lay	er of black mu	CK.						



wasa122f_w1_N



wasa122f_w1_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Reloc	cation Project	City/County:	Ashland		Sampling Date: <u>2019-10-05</u>		
	•				Sampling Point: wasa122f_w2		
Investigator(s): NTT/ARK		Section, Tov	nship, Range: 04	14N-002W-0)8		
					Slope (%): <u>0-2%</u>		
Subregion (LRR or MLRA): No	orthcentral Forests L	at: 46.304054	Long: -90	.648376	Datum: WGS84		
					eation:		
Are climatic / hydrologic condit							
					orresent? Yes _ ✓ No		
Are Vegetation, Soil							
SUMMARY OF FINDING	35 – Attach site	map snowing sampling	point location	ns, transects	, important features, etc.		
Hydrophytic Vegetation Prese	ent? Yes <u>√</u>		Sampled Area				
Hydric Soil Present?		110	n a Wetland?				
Wetland Hydrology Present?			, optional Wetland	Site ID:			
Remarks: (Explain alternative Wet forest communication)		n a separate report.) f conifers and decidu	ious hardwo	ods Classif	ied here as a		
hardwood swamp or	•		ious riarawo	odo. Oldoon	ica noro ao a		
marawood swamp o	ver a confinerou	3 Swamp.					
HYDROLOGY							
Wetland Hydrology Indicate	ors:			Secondary Indica	tors (minimum of two required)		
Primary Indicators (minimum	of one is required; che	eck all that apply)		Surface Soil Cracks (B6)			
Surface Water (A1)	_	_ Water-Stained Leaves (B9)		Drainage Patterns (B10)			
High Water Table (A2)	_	_ Aquatic Fauna (B13)		Moss Trim Lines (B16)			
Saturation (A3)	-	_ Marl Deposits (B15)		Dry-Season Water Table (C2)			
Water Marks (B1)		Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)			
Sediment Deposits (B2)				(C3) Saturation Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		Presence of Reduced Iron (Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)		Recent Iron Reduction in Til					
Iron Deposits (B5)		_ Thin Muck Surface (C7)		Shallow Aquitard (D3)			
Inundation Visible on Ae		_ Other (Explain in Remarks)	•	Microtopographic Relief (D4)			
Sparsely Vegetated Con-	cave Surface (B8)			✓ FAC-Neutral	Test (D5)		
Field Observations:							
Surface Water Present?		Depth (inches):					
Water Table Present?		Depth (inches):					
Saturation Present? (includes capillary fringe)	Yes No _✓	Depth (inches):	Wetland H	ydrology Presen	t? Yes/ No		
	eam gauge, monitoring	well, aerial photos, previous i	nspections), if avai	lable:			
Demodes							
Remarks: Feature likely with a	saturated hyd	rologic regime					
Toutaro intoly with a	oataratoa riya	rologio rogiirio.					

VEGETATION – Use scientific names of plants.

True Otestano (Districtor 201	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. <u>Tsuga canadensis</u>				That Are OBL, FACW, or FAC:7 (A)
2. <u>Thuja occidentalis</u>				Total Number of Dominant
3				Species Across All Strata: 9 (B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 77.78 (A/B)
5				That Are OBE, I ACW, OF I AC.
6				Prevalence Index worksheet:
7	-			Total % Cover of: Multiply by:
	50	= Total Cov	/er	OBL species <u>15</u> x 1 = <u>15</u>
Sapling/Shrub Stratum (Plot size: 15')				FACW species 40 x 2 = 80
1. <u>Betula alleghaniensis</u>	10	<u> Y </u>	<u>FAC</u>	FAC species
2. <u>Fraxinus nigra</u>	10	Y	<u>FACW</u>	UPL species0 x 5 =0
3				Column Totals: 100 (A) 260 (B)
4			-	
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7			·	1 - Rapid Test for Hydrophytic Vegetation
	20	= Total Cov	/er	✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size:5')				3 - Prevalence Index is ≤3.0¹
1. Carex scabrata	10	Υ	OBL	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Matteuccia struthiopteris		Υ	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Carex crinita		Y	OBL	
4. Carex gracillima		Y	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Equisetum pratense		Y	FACW	
6				Definitions of Vegetation Strata:
				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
9			-	
10				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11		-		Woody vines – All woody vines greater than 3.28 ft in
12				height.
	30	= Total Cov	/er	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No
		= Total Cov	ver .	
Remarks: (Include photo numbers here or on a separate s Sample point has a mixed canopy of he Braun-Blanquet scale used.	emlock a	and ced	ar with a	a ground layer of sedges.

Sampling Point: wasa122f_w2

SOIL Sampling Point: wasa122f_w2

	cription: (Describe	to the dep	th needed to docum	nent the i	ndicator	or confirm	the absence of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	<u>Features</u> %	Type ¹	Loc ²	Texture Remarks
0-12	10YR 2/1	100	Color (moiot)	70	Турс		MMI
12-20	10YR 2/1	100					SCL
		<u> </u>					
		letion, RM	=Reduced Matrix, MS	=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Histosol			Polyvalue Below	v Surface	(CQ) (I DI	р	Indicators for Problematic Hydric Soils ³ : 2 cm Muck (A10) (LRR K, L, MLRA 149B)
	oipedon (A2)		MLRA 149B)		(30) (LKI	λ Ν,	Coast Prairie Redox (A16) (LRR K, L, R)
	stic (A3)		Thin Dark Surfa				
	en Sulfide (A4) d Layers (A5)		✓ Loamy Mucky M✓ Loamy Gleyed M			, L)	Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L)
Deplete	d Below Dark Surface	e (A11)	Depleted Matrix	(F3)			Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Sur				Iron-Manganese Masses (F12) (LRR K, L, R
					7)		
Sandy F	Redox (S5)						Red Parent Material (F21)
	l Matrix (S6) rface (S7) (LRR R, N	/ILRA 149I	3)				Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
			etland hydrology mus	t be prese	ent, unless	disturbed	or problematic.
	Layer (if observed):						
	ahaa):						Hydric Soil Present? Yes ✓ No
	cnes)		 ;				
	amy soil locat	ed at tl	ne surface.				
,	,						
Sandy G Sandy F Stripped Dark Su Indicators o Restrictive Type: Depth (in Remarks:	Matrix (S6) rface (S7) (LRR R, N	tion and we	etland hydrology mus	ons (F8)		s disturbed	Very Shallow Dark Surface (TF12)Other (Explain in Remarks)



wasa122f_w2_N



wasa122f_w2_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	NTT/DGL		
File #:	Date of visit(s):		
wasa122	09/28/2019		
Location:	Ecological Landsca	pe:	
PLSS: <u>044N-002W-08</u>	North Central Forest		
	North Central Forest		
Lat: <u>46.303719</u> Long: <u>-90.6480042</u>	Watershed:		
	LS14 Upper Bad River		
County: Ashland Town/City/Village: Morse town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
815A, 5172C, Wormet sandy loam, 0 to 3 percent slopes, Gogebic, very	Wetland Type(s):		
stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes	PFO - Hardwood swamp		
Field Verified:	1.0 1.0.000		
Series not verified. Soils were sampled at	Wetland Size:	Wetland Area Impacted	
multiple points. Soils were muck and mucky	0.97	0.97	
mineral above sandy clay loam.	Vegetation:		
milleral above salidy day loam.	Plant Community Description(s):		
Hydrology:			
The feature is located within a depressional basin with a	The wetland is a hardwood swamp with a		
seasonally saturated hydrologic regime. Part of the	mixed canopy of black ash, white cedar and		
feature is located along the edge of an intermittent	Eastern hemlock and the ground layer is		
stream.	dominated by sedges.		
	1	<u> </u>	

SITE MAP		

SECTION 1: Functional Value Assessment

1 N Y Used for recreation (hunting, birding, hiking, etc.). List: Hunting			ECTION 1:	Functional Value Assessment
2 N N Used for educational or scientific purposes 3 N N V Visually or physically accessible to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WHH 1 N N Wetland and contiguous habitat 10 acres 2 Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer – natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex.etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N V Standing water provides habitat for amphibians and aquatic invertebrates 1 N N N N N N N N N N N N N N N N N N N	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
3	2	N	N	Used for educational or scientific purposes
A N Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation	3	N	N	
In or adjacent to RED FLAG areas List: List: List: List: List: List: List: List: N	4	.		
S		- ' '		
Fig.	5	N	N	
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	N	NI	
Wildlife Habitat N		IN	111	
1				
2	h +	NI	NI	
3				
4			_	
6 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present > 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Autural Heritage Inventory (NH1) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1				
For the content of			-	
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans				
Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable	ь	Y	Y	Interspersion of nabitat structure (nemi-marsn,snrub/emergent, wetland/upland complex,etc.)
8 N N Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N NAtural Heritage Inventory (NHI) listed advatic species within aquatic system 4 N Y Vegetation is inundated in spring Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Water levels or high flows - if no, not applicable water levels or high flows - if no, not applicable 3 N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 N Y Densely rooted emergent or woody vegetation 5 T Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 N N Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover > 10% of land surface within the watershed 7 N N Within a watershed with <10% wetland 8 N P Otential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event wood water water of surface within a lake or stream 9 N N Water flow through wetland is NOT channelized 4 Y Y Dense, persistent vegetation 6 N N Provides substantial storage of storm and floodwater based on previous section 9 N N Orbital to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event wood water water or surface water from agricultural land is major hydrology source 9 N N N Discharge to surface water from agricultural land is majo	7	V	Y	
9				
10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 N Y Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 N N Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% Groundwater Processes 1 N N Springs, seeps or indicators of groundwater five period with no additional water inputs				
11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 N Y Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream Vater flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed With in a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N N Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 N N Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 Y Y Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% Groundwater Processes 1 N N Stormwater or surface water from agricultural land is major hydrology source 9 N N Natural land cover in 100m buffer area < 50% Groundwater				
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WQ-4: located within	a small basin alongs	side an intermittent stream
	amp with tree, shrub	o, and ground layers present
GW-4: layer or much	(present	
Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
Lis	st: direct ob	oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
	nter, etc.	,g.,g.,,,
Observed	Potential	Species/Habitat/Comments
	Υ	White-tailed deer
Υ	Y	Songbirds
	Υ	Frogs
		atic Life Habitat and Species Observations
Lis	st: direct of	servation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Oleannia	Detential	On a sing Habitat
Observed	Potential Y	Species/Habitat
	Y	Aquatic invertebrates

Section 1 Comments (Refer to Section 1 numbers)

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

Train Community integrity (circle)								
	Low	Medium	High	Exceptional				
Invasive species cover	> 50%	20-50%	10-20%	<10%				
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented				
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)				
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare				
FQI (optional)	<13	13-23	23-32	>32				
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7				

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Abundant
Acer rubrum			PFO	Uncommon
Carex crinita			PFO	Common
Equisetum pratense			PFO	Common
Symphyotrichum lateriflorum			PFO	Uncommon
Athyrium angustum			PFO	Uncommon
Rubus pubescens			PFO	Uncommon
Tsuga canadensis			PFO	Common
Thuja occidentalis			PFO	Common
Betula alleghaniensis			PFO	Common
Carex gracillima			PFO	Uncommon
Carex scabrata			PFO	Common
Matteuccia struthiopteris			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The florisitc integrity is high as the wetland is located within an intact mesic forest and it is composed of a diverse assemblage of native species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
Alca (AA)			LCVCI	Trequency	Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
					Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
Χ	Χ		М	С	Human trails – unpaved
					Human trails – paved
	X		L	С	Removal of large woody debris
Χ	Χ		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
	X		L	С	Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

T	he wetland is relatively undisturbed. There are ATV trails located nearby.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity			√		
Human Use Values	√				
Wildlife Habitat			√		
Fish and Aquatic Life Habitat		√			
Shoreline Protection		√			
Flood and Stormwater Storage		√			
Water Quality Protection		√			
Groundwater Processes		√			

FUNCTION	RATIONALE
Floristic Integrity	Intact and dominated by native species
Human Use Values	ATV trails nearby
Wildlife Habitat	Located within a large mesic hardwood forest, multiple strata represented
Fish and Aquatic Life Habitat	May support standing water, adjacent to stream
Shoreline Protection	Located along intermittent stream with woody and emergent vegetation
Flood and Stormwater Storage	Depressional basin wetland that surrounds an intermittent stream
Water Quality Protection	Dense vegetation throughout portions of the wetland
Groundwater Processes	Majority of input is from precipitation events, organic soil present within an area of wetland indicating potential groundwater discharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	t City/C	County: Ashland	Sa	mpling Date: <u>2019-09-28</u>		
Applicant/Owner: Enbridge						
Investigator(s): NTT/DGL Section, Township, Range: 044N-002W-08						
Landform (hillslope, terrace, etc.): Talf						
Subregion (LRR or MLRA): Northcentral Forest						
Soil Map Unit Name: Gogebic, very stony-Penc						
Are climatic / hydrologic conditions on the site typ						
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.						
	✓ No	Is the Sampled Area within a Wetland?	Vac	No. /		
	No <u>✓</u>		<u></u>			
Wetland Hydrology Present? Yes_		If yes, optional Wetland S	Site ID:			
Remarks: (Explain alternative procedures here Sample point meets one of the t	or in a separate report.) hree wetland parai	meters, but is lack	ing anv signs	of wetland		
hydrology and the soils are not hydric.						
HYDROLOGY						
Wetland Hydrology Indicators:		<u>S</u>	Secondary Indicators	(minimum of two required)		
Primary Indicators (minimum of one is required;	check all that apply)		Surface Soil Cra	cks (B6)		
Surface Water (A1)	1) Water-Stained Leaves (B9)		Drainage Patterns (B10)			
High Water Table (A2)	Aquatic Fauna (B13)	_	Moss Trim Lines (B16)			
Saturation (A3)	Marl Deposits (B15)	_	Dry-Season Water Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Ode		Crayfish Burrows			
Sediment Deposits (B2)	Oxidized Rhizosphere	-		e on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)				
Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)				
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7) Shallow Aquitard (D3)					
Sparsely Vegetated Concave Surface (B8)						
Field Observations:			FAC-Neutral Tes	St (D3)		
	✓ Depth (inches):					
	✓ Depth (inches):					
	✓ Depth (inches):		drology Present?	Yes No <u>√</u>		
(includes capillary fringe) Describe Recorded Data (stream gauge, monito	مس مملم امار مساس	viewe incompations) if evelle	.hla.			
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, pre	vious inspections), if availa	able:			
Remarks:	wara abaarwad					
No wetland hydrology indicators	were observed.					
T C C C C C C C C C C C C C C C C C C C						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute	Dominant		Dominance Test worksheet:
		Species?		Number of Dominant Species
Acer saccharum Abies balsamea				That Are OBL, FACW, or FAC:5(A)
				Total Number of Dominant Species Across All Strata: 8 (B)
3				Species Across All Strata:8(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 62.50 (A/B)
5				111at Ale CBE, 1 ACW, 01 AC
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	75	= Total Cov	er	OBL species 0 x 1 = 0
Sapling/Shrub Stratum (Plot size: 15')				FAC species 5 x 2 = 10
1. <u>Abies balsamea</u>				FAC species x 3 = 171 FACU species 71 x 4 = 284
2. Corylus cornuta	5	Y	<u>FACU</u>	UPL species
3				Column Totals: (A) (B)
4				
5				Prevalence Index = B/A = 3.50
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	25	= Total Cov	er	2 - Dominance Test is >50%
Herb Stratum (Plot size: 5')				3 - Prevalence Index is ≤3.0¹
1. Acer saccharum	10	Υ	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. <u>Dryopteris intermedia</u>			FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. Carex pedunculata			FAC	
4. Equisetum pratense			FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. Trientalis borealis	0	N	FAC	
6. Maianthemum canadense			FACU	Definitions of Vegetation Strata:
7. Brachyelytrum erectum			FACU	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8. <u>Pyrola elliptica</u>				
9				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				
11.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Cov	· · · · · · · · · · · · · · · · · · ·	height.
Manda Vina Caratium (Blat sina)		= Total Cov	rei	
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No
		= Total Cov	er	
Remarks: (Include photo numbers here or on a separate s The dominance test meets the criteria f		nd vege	atation	but that is due to halsam fir Otherwise
this is a mesic forest system.	OI WELIA	iliu vege	talion,	but that is due to baisant iii. Otherwise
this is a mesic lorest system.				

Sampling Point: wasa122_u

SOIL Sampling Point: wasa122_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indicators.)	
Depth	Matrix			x Features	4	1.2.2	Tautura	
(inches) 0-6	Color (moist) 10YR 2/2	100	Color (moist)	%	Type'	Loc ²	Texture Remarks SICL	
6-20	7.5YR 4/4						SIL	
020	7.0110 4/4	100		·				
				· 				
				. ———				
				· 				
				· 				
							2	
Hydric Soil	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric So	
Histoso	I (A1)		Polyvalue Belov		(S8) (LRF	RR,	2 cm Muck (A10) (LRR K, L, MLRA	A 149B)
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		RRR MI	RA 149R)	Coast Prairie Redox (A16) (LRR K5 cm Mucky Peat or Peat (S3) (LRI	
Hydroge	en Sulfide (A4)		Loamy Mucky N	/lineral (F	1) (LRR K		Dark Surface (S7) (LRR K, L)	
	d Layers (A5) d Below Dark Surface	- (Δ11)	Loamy Gleyed I Depleted Matrix)		Polyvalue Below Surface (S8) (LRIThin Dark Surface (S9) (LRR K, L)	
-	ark Surface (A12)	. (ΑΙΙ)	Redox Dark Su				Iron-Manganese Masses (F12) (LR	
-	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark S Redox Depress		7)		Piedmont Floodplain Soils (F19) (NMesic Spodic (TA6) (MLRA 144A,	
-	Redox (S5)	•	Redux Depless	10115 (1 0)			Red Parent Material (F21)	143, 1436)
	d Matrix (S6) urface (S7) (LRR R, N	ILRA 149B)				Very Shallow Dark Surface (TF12)Other (Explain in Remarks)	
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:	-l \.						Hydric Soil Present? Yes	No /
Remarks:	ches):						riyana dan resent: res	
	c soil indicator	s prese	nt.					
								l



wasa122_u_N



wasa122_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-09-28
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa123f_w
Investigator(s): NTT/DGL	Section, Townshi	p, Range: <u>044N-002W-0</u>)8
Landform (hillslope, terrace, etc.): Depression			
Subregion (LRR or MLRA): Northcentral Forests Lat:			
Soil Map Unit Name: Gogebic, very stony-Pence, ver			
Are climatic / hydrologic conditions on the site typical for	or this time of year? Yes	No (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Attach site m	ap showing sampling po	int locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes✓	No Is the San	npled Area	
Hydric Soil Present? Yes ✓	No within a V	Vetland? Yes <u>√</u>	No
		onal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a Hardwood swamp that includes an in	a separate report.)	feature	
Haluwoou swamp mat moludes an ii	memillem waterbody	iealuie.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check		Surface Soil	
	Water-Stained Leaves (B9)	Drainage Pa	
	Aquatic Fauna (B13)	Moss Trim Li	
	Marl Deposits (B15)	·	Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Burn	
	Oxidized Rhizospheres on Living		sible on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		tressed Plants (D1)
	Recent Iron Reduction in Tilled S		1 1
	Thin Muck Surface (C7) Other (Explain in Remarks)	Shallow Aqui Microtopogra	
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Nemarks)	Microtopogra	
Field Observations:		<u>√</u> 1 AO-Neutrar	1651 (D3)
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Presen	nt? Yes/_ No
(includes capillary fringe)	all and taketan and days from		
Describe Recorded Data (stream gauge, monitoring w	veii, aeriai pnotos, previous inspe	ctions), if available:	
Remarks:	1 4 4		
Feature likely with prolonged seasor	hal saturation .		

VEGETATION – Use scientific names of plants.

T. O (D	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
1. <u>Fraxinus nigra</u>			FACW	That Are OBL, FACW, or FAC:6 (A)
2. Abies balsamea				Total Number of Dominant
3. <u>Acer rubrum</u>				Species Across All Strata:6(B)
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
5				That Are OBL, FACW, or FAC: 100.00 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	55	= Total Cov	ver	OBL species10 x 1 =10
Sapling/Shrub Stratum (Plot size:)				FACW species <u>25</u> x 2 = <u>50</u>
1. Abies balsamea	10	<u>Y</u>	FAC	FACULTURE
2				FACU species5 x 4 =20 UPL species0 x 5 =0
3				Column Totals: (A) (B)
4				
5				Prevalence Index = B/A = 2.65
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
		= Total Cov		✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size:)				3 - Prevalence Index is ≤3.0¹
1. Carex pedunculata	_25	<u>Y</u>	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Glyceria striata	10	Y	OBL	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Athyrium angustum</u>	10	Y	FAC	
4. Agrimonia striata			FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
	50	= Total Cov	ver	height.
Woody Vine Stratum (Plot size: 30')				
1				
2				
3				Hydrophytic
4.				Vegetation
		= Total Cov	ver	Present? Yes No
Remarks: (Include photo numbers here or on a separate	sheet.)			<u> </u>
Wet forest that includes black ash, bals	sam fir, a	and red	maple.	

Sampling Point: wasa123f_w

SOIL Sampling Point: wasa123f_w

Profile Desc	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of	of indicators.)
Depth	Matrix	0/		x Features		1 2	Taratana	Devende
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks
0-20	10YR 2/1	100		·			M	
		· <u></u> -						
	-			· 				
		·						
	-							
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lining, M=Matrix.
Hydric Soil			Daharahia Dalai	0	(CO) (LDE	. D		for Problematic Hydric Soils ³ :
/ Histosol	pipedon (A2)	-	Polyvalue Belov MLRA 149B)		(58) (LRF	κκ,		uck (A10) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R)
	istic (A3)	_	Thin Dark Surfa		RR R, MI	RA 149B)		ucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4)	-	Loamy Mucky N			, L)		urface (S7) (LRR K, L)
	d Layers (A5) d Below Dark Surfac	- - (A11)	Loamy Gleyed IDepleted Matrix)			ue Below Surface (S8) (LRR K, L) ark Surface (S9) (LRR K, L)
	ark Surface (A12)	e (ATT)	Depleted Matrix Redox Dark Su					inganese Masses (F12) (LRR K, L, R)
	/lucky Mineral (S1)	-	Depleted Dark S		7)			ont Floodplain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)	_	Redox Depress	ions (F8)				Spodic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5)							rent Material (F21)
	l Matrix (S6) rface (S7) (LRR R, N	ILRA 149B)					nallow Dark Surface (TF12) Explain in Remarks)
	f hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type: Depth (in	ches):						Hydric Soil I	Present? Yes/ No
Remarks:								
Black mu	ıck soils.							



wasa123f_w_N



wasa123f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): NTT/DGL	
File #: wasa123	Date of visit(s): 09/28/2019	
Location: PLSS: 044N-002W-08	Ecological Landsca North Central Forest	ape:
Lat: <u>44.926851</u> Long: <u>-93.128184</u>	Watershed: LS14, Upper Bad River	
County: Ashland Town/City/Village: Morse town		
SITE DESCRIPTION		
Soils: Mapped Type(s): 5172C, Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18	WWI Class:	
percent slopes Field Verified:	Wetland Type(s): PFO - Hardwood	d swamp
Series not verified. Soils were muck throughout	Made 10'	I Martin and American
the profile.	Wetland Size: 0.07	Wetland Area Impacted 0.07
	Vegetation: Plant Community D	Description(s):
Hydrology: The hardwood swamp is located within a basin, with a seasonally saturated hydrologic regime. The feature is sparsely vegetated with likely prolonged seasonal saturation.	The hardwood s intact forest. The black ash with b	wamp is located within an e canopy is dominated by alsam fir and a sparse ground by native graminoids.

SITE MAR	•		

SECTION 1: Functional Value Assessment

1 N N N Used for recreation (hunting, birding, bitch, purposes 3 Y Y V Visually or physically accessible to public 4 N N N A Sharbetically placessible to public 5 N N Lict 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 N Supports or provides habitat for endangered, threatened or special concern species 8 N N Supports or provides habitat for endangered, threatened or special concern species 9 N N Supports or provides habitat for endangered, threatened or special concern species 1 N Y Wetland and contiguous habitat >10 acres 2 Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corndor or established wildlife habitat area 4 Y Y 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y y plans 8 Y Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflast present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 1 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N N Standing water provides habitat for amphibians and aquatic invertebrates 1 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N N Standing water provides habitat for amphibians and aquatic invertebrates 1 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N N Standing water provides habitat for amphibians and aquatic invertebrates 1 N N Provides habitat scarce in the area (urban, agricultural) etc.) Fish and Aquatic Life Habitat 1 N N N Standing water provides habitat for amphibians a			ECTION 1:	Functional Value Assessment
2	HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
3	1	Ν	Ν	Used for recreation (hunting, birding, hiking, etc.). List:
3	2	N	N	Used for educational or scientific purposes
A	3	Υ	Υ	
5 N N N List	4		N	
S		- 1		
File	5	Ν	N	
The continuation of the	6	NI	NI	
Wildlife Habitat		IN	IN	
1				
2	-	V	V	
3	_			
4 Y Y 100 m buffer — natural land cover >50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh.shrub/emergent, wetland/upland complex.etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 Y Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 2 N Posensyl rostoed emergent or woody vegetation is Storm and Floodwater Storage 3 N N Densely rostoed emergent or woody vegetation 5T Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 4 N N Point or non-point source inflow 5 N N Point or non-point source inflow 4 N N Point or non-point source inflow 5 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event water from a provious section 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event water from a provious section 9 N N Stormwater or surface water from ag			·	
6 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 Y Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Provides habitat scarce in the area (urban, agricultural, etc.) FFA Fish and Aquatic Life Habitat 1 N N Provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 3 N Potential for erosion due to wind fetch, waves, heavy boat traffi	-			
For the content of				
Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans	-			Occurs in a Joint venture priority township
Y	б	Υ	Y	Interspersion of nabitat structure (nemi-marsn,snrub/emergent, wetland/upland complex,etc.)
8 Y Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y A long shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 N Y Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed Water Quality Protection 1 N Provides substantial storage of storm and floodwater based on previous section 2 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event 9 Water flow through wetland is NOT channelized 9 Y Y Water flow through wetland is NOT channelized 9 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 9 N N Stormwater or surface water from agricultural land is major hydrology source 9 N N N Stormwater or surface water from agricultural land is major hydrology s	7	V	Y	
9				
10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 N Y Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover > 10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection 1 N Provides substantial storage of storm and floodwater based on previous section 2 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water from agricultural land is major hydrology source 9 N N Natural land cover in 100m buffer area < 50% Groundwater Processes 1 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water	-			
11				
FA Fish and Aquatic Life Habitat N N Wetland is connected or contiguous with perennial stream or lake Standing water provides habitat for amphibians and aquatic invertebrates N N Standing water provides habitat for amphibians and aquatic invertebrates N N N Autural Heritage Inventory (NHI) listed aquatic species within aquatic system Vegetation is inundated in spring SP Shoreline Protection Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable ST Storm and Floodwater Storage Y P Basin wetland, constricted outlet, has through-flow or is adjacent to a stream Storm and Floodwater Storage Water flow through wetland is NOT channelized N N Evidence of flashy hydrology N N Evidence of flashy hydrology N N Within a watershed with <10% wetland N N Within a watershed with <10% wetland N N Ponest cover >10% of land surface within the watershed Water Quality Protection N N Provides substantial storage of storm and floodwater based on previous section Water Quality Protection N N Provides substantial storage of storm and floodwater based on previous section Bank N Provides substantial storage of storm and floodwater based on previous section Water Quality Protection N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth N N Stormwater or surface water from agricultural land is major hydrology source N N N Autural land cover in 100m buffer area < 50% Groundwater Processes N N N Location near a groundwater divide or a headwater wetland	-	Ν	Y	
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2	FA			Fish and Aquatic Life Habitat
2	1	N	N	Wetland is connected or contiguous with perennial stream or lake
3	2		Υ	
SP Shoreline Protection	3		N	
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2 N N Location near a groundwater divide or a headwater wetland 3 N Y Wetland remains saturated for an extended time period with no additional water inputs	—	N.I	N.I	
3 N Y Wetland remains saturated for an extended time period with no additional water inputs				
1 4 I Y I Y I Wetland soils are organic		NI		I viveriand remains saturated for an extended time period with no additional water inputs
5 N N Wetland is within a wellhead protection area		Υ	Υ	Wetland soils are organic

Section 1 Comments (Refer to Section 1 numbers) HU-3: located near a cleared power line corridor along a heavily grazed cattle pasture WH-2: located in a hardwood swamp surrounded by mesic hardwoods SP-1: associated with an intermittent stream GW-4: layer of muck present Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Potential Observed Species/Habitat/Comments White-tailed deer Υ Υ Songbirds Frogs Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Common
Abies balsamea			PFO	Common
Acer rubrum			PFO	Common
Carex pedunculata			PFO	Common
Glyceria striata			PFO	Common
Athyrium angustum			PFO	Common
Agrimonia striata			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The floristic integrity is moderate due to intact canopy and dominance by native species. The feature is sparsely vegetated likely due to inundation.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
,					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
Х	Х		L	С	Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
Х	Х		M	С	Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
	Х		L	С	Removal of tree or shrub strata – logging,
	^		L	C	unprescribed fire
	Χ		L	С	Human trails – unpaved
					Human trails – paved
	X		L	С	Removal of large woody debris
Χ	Χ		L	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is located near an ATV trail with human disturbance throughout the area.					

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		✓			
Human Use Values	√				
Wildlife Habitat			√		
Fish and Aquatic Life Habitat	√				
Shoreline Protection	√				
Flood and Stormwater Storage		√			
Water Quality Protection		√			
Groundwater Processes		√			

FUNCTION	RATIONALE
Floristic Integrity	Low diversity, dense canopy cover
Human Use Values	Located near an ATV trail
Wildlife Habitat	Part of a large block of mesic hardwood forest
Fish and Aquatic Life Habitat	No water present in wetland, dry creek bed within the wetland
Shoreline Protection	Associated with intermittent stream, woody and emergent vegetation
Flood and Stormwater Storage	Basin wetland, located along a small intermittent stream
Water Quality Protection	Sparse vegetation due to frequent inundation
Groundwater Processes	Receives runoff from nearby trail, organic soils, likely prolonged saturation, indicating groundwater recharge and potential discharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-09-28		
•					
Investigator(s): NTT/DGL	Section, Township, Range: 044N-002W-08				
Landform (hillslope, terrace, etc.): Talf					
Subregion (LRR or MLRA): Northcentral Forests					
Soil Map Unit Name: Gogebic, very stony-Pence					
Are climatic / hydrologic conditions on the site typic					
Are Vegetation, Soil, or Hydrology					
Are Vegetation, Soil, or Hydrology					
SUMMARY OF FINDINGS – Attach site	e map snowing sampling po	Int locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Yes		npled Area			
	INO <u> </u>	Vetland? Yes	No/		
		ional Wetland Site ID:			
Remarks: (Explain alternative procedures here o Sample recorded in a mesic hard		hy sugar maple			
Cample recorded in a mesic hard	wood system dominated	by Sugai mapic.			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)		
Primary Indicators (minimum of one is required; c	heck all that apply)	Surface Soi	l Cracks (B6)		
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	atterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim I	_ines (B16)		
	Marl Deposits (B15)	Dry-Season	Water Table (C2)		
	Hydrogen Sulfide Odor (C1)	Crayfish Bu			
	Oxidized Rhizospheres on Living		/isible on Aerial Imagery (C9)		
1 — · · · · ·	Presence of Reduced Iron (C4)		Stressed Plants (D1)		
	Recent Iron Reduction in Tilled S		Position (D2)		
	Thin Muck Surface (C7)	Shallow Aqu			
	Other (Explain in Remarks)	· -	raphic Relief (D4)		
Sparsely Vegetated Concave Surface (B8) Field Observations:		FAC-Neutla	al Test (D5)		
	✓ Depth (inches):				
	✓ Depth (inches):				
	✓ Depth (inches):		nt? Yes No ✓		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitori	ing well, aerial photos, previous inspe	ctions), if available:			
Remarks:					
No wetland hydrology indicators v	were observed.				

VEGETATION – Use scientific names of plants.

Absolute					
% Cover	Dominant Species?		Dominance Test worksheet:		
50	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:1(A)		
5	N	FACU			
			Total Number of Dominant Species Across All Strata: 5 (B)		
			Percent of Dominant Species		
			That Are OBL, FACW, or FAC: 20.00 (A/E		
			Prevalence Index worksheet:		
			Total % Cover of: Multiply by:		
	= Total Cov	/er	OBL species 0 x 1 = 0 FACW species 0 x 2 = 0		
_		E 4 O	FAC species 17 x3 = 51		
			FACU species 60 x 4 = 240		
			UPL species 10 x 5 = 50		
			Column Totals: <u>87</u> (A) <u>341</u> (B		
			Prevalence Index = B/A = 3.92		
			Hydrophytic Vegetation Indicators:		
			1 - Rapid Test for Hydrophytic Vegetation		
			2 - Dominance Test is >50%		
			3 - Prevalence Index is ≤3.0¹		
10	Υ	UPI	4 - Morphological Adaptations ¹ (Provide supportindata in Remarks or on a separate sheet)		
	Y		- · · · · · · · · · · · · · · · · · ·		
	— L		¹ Indicators of hydric soil and wetland hydrology must		
			be present, unless disturbed or problematic.		
			Definitions of Vegetation Strata:		
			Tree – Woody plants 3 in. (7.6 cm) or more in diameter		
			at breast height (DBH), regardless of height.		
			Sapling/shrub – Woody plants less than 3 in. DBH		
			and greater than or equal to 3.28 ft (1 m) tall.		
			Herb – All herbaceous (non-woody) plants, regardless		
			of size, and woody plants less than 3.28 ft tall.		
			Woody vines – All woody vines greater than 3.28 ft in		
37	= Total Cov	/er	height.		
			Hydrophytic		
			Hydrophytic Vegetation Present? Yes No √		
	5				

SOIL Sampling Point: wasa123_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indicate	ors.)
Depth	Matrix	0/		x Features	4	1 2	Tautuma	Damada
(inches) 0-6	Color (moist) 10YR 2/2	100	Color (moist)	%	Type'	Loc ²	SICL	Remarks
6-20	7.5YR 3/3						SIL	_
0-20	7.0110 0/0	100		·				
				·				_
				. ———				
				· ——				
				. ———				
				·				
				·				
¹ Type: C=C Hydric Soil	oncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=Pore Indicators for Proble	
Histoso		_	Polyvalue Belov	w Surface	(S8) (LRF	RR,		(LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B))				lox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)	-	Thin Dark Surfa Loamy Mucky N				5 cm Mucky Peat Dark Surface (S7)	or Peat (S3) (LRR K, L, R) (LRR K, L)
Stratifie	d Layers (A5)		Loamy Gleyed I	Matrix (F2			Polyvalue Below	Surface (S8) (LRR K, L)
-	d Below Dark Surface ark Surface (A12)	e (A11) _	Depleted MatrixRedox Dark Su				Thin Dark Surface	e (S9) (LRR K, L) Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)	- -	Depleted Dark S		7)		_	ain Soils (F19) (MLRA 149B)
-	Gleyed Matrix (S4)	-	Redox Depress	ions (F8)				6) (MLRA 144A, 145, 149B)
-	Redox (S5) d Matrix (S6)						Red Parent Mater Very Shallow Dar	
	ırface (S7) (LRR R, N	ILRA 149B)				Other (Explain in	
	of hydrophytic vegetat		land hydrology mus	t be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:	ali a a N						Hydric Soil Present?	Yes No <u></u> ✓
Remarks:	ches):						Tryune don't resent:	163 110_ <u></u>
	c soil indicator	s prese	nt.					



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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project Ci	ty/County: Ashland Sampling Date: 2019-09-28
	State: WI Sampling Point: wasa124f_w
Investigator(s): NTT/DGL Se	ection, Township, Range: 044N-002W-08
Landform (hillslope, terrace, etc.): Depression Local	I relief (concave, convex, none): Concave Slope (%): 0-2%
	Long: <u>-90.647229</u> Datum: <u>WGS84</u>
	omplex, 0 to 18 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year	
	sturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally probl	
SUMMARY OF FINDINGS – Attach site map showing s	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No Remarks: (Explain alternative procedures here or in a separate report.)	If yes, optional Wetland Site ID:
HYDROLOGY Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) Water-Stained Le	
Surface Water (A1) Water-Staffed Le	
Saturation (A3) Marl Deposits (B1	
Water Marks (B1) Hydrogen Sulfide	- · · · · · · · · · · · · · · · · · · ·
Sediment Deposits (B2) Oxidized Rhizosp	heres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Redu	
	ction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surfac	
Inundation Visible on Aerial Imagery (B7) Other (Explain in	· · · · · · · · · · · · · · · · · · ·
Sparsely Vegetated Concave Surface (B8) Field Observations:	_/_ FAC-Neutral Test (D5)
Surface Water Present? Yes No✓ Depth (inches):	
Water Table Present? Yes No _✓ Depth (inches):	
Saturation Present? Yes No _ ✓ Depth (inches):	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos,	
Describe Recorded Data (stream gauge, monitoring well, aerial priotos,	previous inspections), if available.
Remarks:	ratarius, as well as from the surrounding landscape
	raterway as well as from the surrounding landscape.
Overall hydrologic regime of saturated but the di	uration decreases further away from the waterbody.

VEGETATION – Use scientific names of plants.

Sampling Point: wasa124f_w	
nant Indicator Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:7 (A)	Y
FAC Total Number of Dominant	Y
Species Across All Strata: 7 (B)	
Percent of Dominant Species	
The A A TO ONL EACHA EACH 100 00 (A/D)	
	= Total Co
I Cover OBL species $\underline{5}$ $x 1 = \underline{5}$ FACW species $\underline{52.5}$ $x 2 = \underline{105}$	= Total Co
	V
FACIL species 0 v4 - 0	
UPL species 0 x 5 = 0	-
Column Totals: 92.5 (A) 215 (B)	
	·
Prevalence Index = B/A = 2.32	
Hydrophytic Vegetation Indicators:	
1 - Rapid Test for Hydrophytic Vegetation	· -
Cover 2 - Dominance Test is >50%	= Total Co
3 - Prevalence Index is ≤3.0'	
OBL 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	Υ
	Y
Indicators of hydric soil and wetland hydrology must	<u>Y</u>
FAC_ be present, unless disturbed or problematic.	
—— —— Definitions of Vegetation Strata:	
Tree - Woody plants 3 in. (7.6 cm) of more in diameter	
at breast height (DBH), regardless of height.	
Sapling/shrub – Woody plants less than 3 in. DBH	
and greater than or equal to 3.28 ft (1 m) tall.	
Herb – All herbaceous (non-woody) plants, regardless	·
of size, and woody plants less than 3.28 ft tall.	
Woody vines – All woody vines greater than 3.28 ft in	
height.	= Total Co
Hydrophytic Vegetation	
Present? Yes ✓ No	
l Cover	= Total Co
th scattered horsetail in the ground layer.	y with s
l Cover	= Total Co

SOIL Sampling Point: wasa124f_w

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of in	ndicators.)
Depth	Matrix	0/		x Features	4	1 2	Tandona	Damadia
(inches)	Color (moist) 10YR 2/1	100	Color (moist)	%	Type'	Loc ²	Texture	Remarks
8-20	7.5YR 3/2						SICL	
0-20	7.0110 0/2	100					OICL _	
		-						
	_							
	_							
	-			· 				
		<u> </u>						
	oncentration, D=Dep	letion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		=Pore Lining, M=Matrix.
Hydric Soil Histoso			Polyvalue Belov	w Surface	(S8) (I D E	D D		Problematic Hydric Soils ³ : (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)	-	MLRA 149B)		(50) (EIXI	、 1 、 ,		rie Redox (A16) (LRR K, L, R)
	istic (A3)	-	Thin Dark Surfa					y Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)	-	Loamy Mucky NLoamy Gleyed			, ∟)		ce (S7) (LRR K, L) Below Surface (S8) (LRR K, L)
-	d Below Dark Surface	e (A11)	Depleted Matrix					Surface (S9) (LRR K, L)
	ark Surface (A12) Mucky Mineral (S1)	-	Redox Dark Su Depleted Dark \$		7)		_	anese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149B)
Sandy (Gleyed Matrix (S4)	-	Redox Depress		.,		Mesic Spoo	dic (TA6) (MLRA 144A, 145, 149B)
-	Redox (S5) d Matrix (S6)							t Material (F21) ow Dark Surface (TF12)
	urface (S7) (LRR R, N	ILRA 149B)					lain in Remarks)
	of hydrophytic vegetat		land hydrology mus	st be prese	ent, unless	disturbed	or problematic.	
	Layer (if observed):							
Type:	iches):						Hydric Soil Pres	sent? Yes <u>√</u> No
Remarks:							,	
Muck so	ils at surface.							



wasa124f_w_N



wasa124f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION		
Project name: Line 5 Relocation Project	Evaluator(s): NTT/DGL	
File #: wasa124	Date of visit(s): 09/28/2019	
Location: PLSS: 044N-002W-08	Ecological Landsca North Central Forest	ape:
Lat: 46.303267 Long: -90.647235 County: Ashland Town/City/Village: Morse town	Watershed: LS14, Upper Bad River	
SITE DESCRIPTION		
Soils: Mapped Type(s): 5173D, 5172C, Gogebic-Pence complex, 18 to 35 percent slopes, very stony, Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes Field Verified:	WWI Class: N/A Wetland Type(s): PFO - Hardwood	d swamp
Series not verified. Soils were muck above silty clay loam.	Wetland Size: 0.51	Wetland Area Impacted 0.51
Hydrology: The hydrologic regime is saturated with recharge hydrology, and is associated with a waterbody. The duration of saturation decreases further away from the		Description(s): wamp is dominated by black by, with a sparse understory of
waterbody.		

SITE MAP		

SECTION 1: Functional Value Assessment

1 N Y Used for recreation (hunting, birding, hiking, etc.). List: Hunting 2 N N Used for education of or scientific purposes 3 Y Y V Visually or physically accessable to public 4 N N A Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation 5 N N I nor adjacent to RED FLAG areas List: 6 N N Supports or provides habitat for endangered, threatened or special concern species 7 In or adjacent to archaeological or cultural resource site WH Wildliffe Habitat 1 Y Y Wetland and contiguous habitat 10 acres 2 Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer - natural land cover> ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 Y y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 Y Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) issed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring 5 Shoreline Protection 1 Y Y Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 N N Potential Foreign water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) issed aquatic species within aquatic system 4 N Y Desepty rotted emergent or wood yequetation 5 N N Potential Foreign on the top of the provides advantage and provides advantage prov			ECTION 1:	Functional Value Assessment
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3	1	Ν	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
3	2	N	N	Used for educational or scientific purposes
A N Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation	3	Υ	Υ	
In or adjacent to RED FLAG areas List: List: List: List: List: List: List: List: N	4		N	
S		- ' '		
Fig.	5	N	N	
In or adjacent to archaeological or cultural resource site Wildlife Habitat	6	N	NI	
Wildlife Habitat Y		IN	IN	
1				
2	-	V	V	
3				
4			_	
6 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 Y Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present > 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N Provides habitat scarce in the area (urban, agricultural, etc.) FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Autural Heritage Inventory (NH1) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1	-			
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7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N N Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 Y Y Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%				
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6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 Y Wetland soils are organic	4	Υ	Υ	Vegetated wetland associated with a lake or stream
6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 Y Wetland soils are organic	5	N	N	Dense, persistent vegetation
7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 Y Wetland soils are organic	6	N	N	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
8 N Y Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50%				
9 N N Natural land cover in 100m buffer area < 50% GW Groundwater Processes 1 N N Springs, seeps or indicators of groundwater present 2 N N Location near a groundwater divide or a headwater wetland 3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 Y Wetland soils are organic	\vdash			
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3 N N Wetland remains saturated for an extended time period with no additional water inputs 4 Y Wetland soils are organic				
4 Y Y Wetland soils are organic				
1. 5. I. N. I. N. I. Watland is within a wallhood protection area.			_	
U N N Wettand is within a wellifead protection area	5	N	N	Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers) HU-3: located near a cleared power line corridor along a heavily grazed cattle pasture WH-2: located in a hardwood swamp surrounded by mesic hardwoods SP-1: associated with an intermittent stream GW-4: a layer of muck is present Wildlife Habitat and Species Observation (including amphibians and reptiles) List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc. Potential Observed Species/Habitat/Comments White-tailed deer Υ Υ Songbirds Frogs Fish and Aquatic Life Habitat and Species Observations List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc. Observed Potential Species/Habitat Υ Aquatic invertebrates

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%✓
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3.✓	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Common
Acer rubrum			PFO	Common
Carex crinita			PFO	Uncommon
Athyrium angustum			PFO	Uncommon
Equisetum sylvaticum			PFO	Uncommon
Equisetum sylvaticum Dryopteris intermedia			PFO	Uncommon

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The florisitc integrity is high as the wetland is intact with vegetation is comprised of native species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
Alca (AA)			LCVCI	Trequency	Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
Х	Х		Н	С	Agriculture – pasture
					Roads or railroad
Х	Х		М	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing,
					grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
	Х		L	С	Human trails – unpaved
			_		Human trails – paved
	Х		L	С	Removal of large woody debris
Х	X		L	C	Cover of non-native and/or invasive species
			_		Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is located within a mesic hardwood forest with ATV trails nearby.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
Γ	Low	Medium	High	Exceptional	NA
Floristic Integrity		√			
Human Use Values		1			
Wildlife Habitat			√		
Fish and Aquatic Life Habitat	√				
Shoreline Protection		✓			
Flood and Stormwater Storage		/			
Water Quality Protection		√			
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Intact with all strata present and native species dominance
Human Use Values	Located near ATV trails and potentially used for hunting
Wildlife Habitat	Part of a large block of mesic hardwood forest, multiple strata represented
Fish and Aquatic Life Habitat	No water present in wetland
Shoreline Protection	Associated with an intermittent stream, emergent and woody vegetation present
Flood and Stormwater Storage	Depressional basin, alongside a stream
Water Quality Protection	Sparse vegetation due to frequent inundation
Groundwater Processes	Likely serves as groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland s	Sampling Date: 2019-09-28
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasa124_u
Investigator(s): NTT/DGL	Section, Township	o, Range: <u>044N-002W-08</u>	}
Landform (hillslope, terrace, etc.): Talf	Local relief (concave	, convex, none): None	Slope (%): 0-2%
Subregion (LRR or MLRA): Northcentral Forests La			
Soil Map Unit Name: Gogebic, very stony-Pence, very			
Are climatic / hydrologic conditions on the site typical			•
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach site i			important reatures, etc.
		npled Area	No. /
	NO		No <u>√</u>
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or in		onal Wetland Site ID:	
HADBOI OCA			
HYDROLOGY Wetland Hydrology Indicators:		Secondary Indicato	rs (minimum of two required)
Primary Indicators (minimum of one is required; che	ck all that apply)		
	_ Water-Stained Leaves (B9)	Drainage Patte	
	_ Aquatic Fauna (B13)	Moss Trim Line	
	Marl Deposits (B15)	Dry-Season W	ater Table (C2)
Water Marks (B1)	_ Hydrogen Sulfide Odor (C1)	Crayfish Burro	
	Oxidized Rhizospheres on Living		ble on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		essed Plants (D1)
	Recent Iron Reduction in Tilled SThin Muck Surface (C7)	oils (C6) Geomorphic Po Shallow Aquita	
	Other (Explain in Remarks)	Shallow Aquita Microtopograpl	
Sparsely Vegetated Concave Surface (B8)	_ Other (Explain in Nemarko)	FAC-Neutral To	
Field Observations:		<u>—</u>	,
Surface Water Present? Yes No✓	Depth (inches):		
Water Table Present? Yes No✓	Depth (inches):		
	Depth (inches):	Wetland Hydrology Present?	Yes No <u>√</u>
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspec	tions), if available:	
	, , , , , , , , , , , , , , , , , , , ,	,,	
Remarks: No wetland hydrology indicators we	ere observed		
l l l l l l l l l l l l l l l l l l l	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		

VEGETATION – Use scientific names of plants.

				Sampling Point: <u>wasa124_</u> u
Tree Stratum (Plot size:)	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. <u>Acer saccharum</u>	37.5	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:4 (A)
2. <u>Populus tremuloides</u>				
3.				Total Number of Dominant Species Across All Strata:
4.				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 40.00 (A/B)
6.				
7.				Prevalence Index worksheet:
	47.5			
Sapling/Shrub Stratum (Plot size:15')	<u> </u>	- 10101 00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	FACW species 0 x 2 = 0
1. <u>Ostrya virginiana</u>	10	V	EACH	FAC species 29 x 3 = 87
2. <u>Abies balsamea</u>				FACU species <u>57.5</u> x 4 = <u>230</u>
				UPL species5 x 5 =25
3. <u>Corylus cornuta</u>				Column Totals: <u>91.5</u> (A) <u>342</u> (B)
4				Prevalence Index = B/A = 3.74
5				
6				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	20_ :	= Total Co	over	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5')				4 - Morphological Adaptations ¹ (Provide supporting
1. Carex pedunculata			<u>FAC</u>	data in Remarks or on a separate sheet)
2. <u>Abies balsamea</u>	5	Y	<u>FAC</u>	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <i>Pteridium aquilinum</i>	5	Y	<u>FACU</u>	¹ Indicators of hydric soil and wetland hydrology must
4. <u>Rubus sp.</u>	5	Y		be present, unless disturbed or problematic.
5. <u>Eurybia macrophylla</u>	5	Y	UPL	Definitions of Vegetation Strata:
6. <i>Trientalis borealis</i>	2	N	FAC	
7. <u>Symphyotrichum lateriflorum</u>	2	N	FAC	Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	29 .	= Total Co	N/Ar	height.
Woody Vine Stratum (Plot size: 30')		= 10tai 00	7001	
1				
1 2				
1				Hydrophytic Vegetation
1 2				Hydrophytic Vegetation Present? Yes No _ ✓

SOIL Sampling Point: wasa124_u

Profile Des	cription: (Describe	to the dept	h needed to docur	nent the i	ndicator	or confirm	the absence of indica	tors.)
Depth	Matrix			x Feature:	-	1 2	Tauduna	Damadia
(inches) 0-5	Color (moist) 10YR 4/2	100	Color (moist)	%	Type'	Loc ²	SICL	Remarks
5-20	7.5YR 3/2						SIL	
3-20	7.511X 3/Z	100						
		-		-				
				-				
		· <u> </u>						
¹ Type: C=C	concentration, D=Depl	letion. RM=	Reduced Matrix. MS	S=Masker	Sand Gr	ains.	² Location: PL=Pore	e Lining, M=Matrix.
Hydric Soil								ematic Hydric Soils ³ :
Histoso			Polyvalue Belov		(S8) (LR F	RR,		(LRR K, L, MLRA 149B)
	pipedon (A2) istic (A3)		MLRA 149B) Thin Dark Surfa		RR R, MI	_RA 149B)		dox (A16) (LRR K, L, R) t or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)		Loamy Mucky N	/lineral (F	1) (LRR K		Dark Surface (S	7) (LRR K, L)
	d Layers (A5) d Below Dark Surface	- (Δ11)	Loamy Gleyed I Depleted Matrix		2)			Surface (S8) (LRR K, L) ce (S9) (LRR K, L)
	ark Surface (A12)	. (ΑΤΤ)	Redox Dark Su					Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1)		Depleted Dark S		7)			plain Soils (F19) (MLRA 149B)
	Gleyed Matrix (S4) Redox (S5)	•	Redox Depress	ions (F8)			Mesic Spodic (Ta Red Parent Mate	A6) (MLRA 144A, 145, 149B)
	d Matrix (S6)							rk Surface (TF12)
Dark Su	ırface (S7) (LRR R, N	ILRA 149B)				Other (Explain in	Remarks)
	of hydrophytic vegetat		tland hydrology mus	t be prese	ent, unless	s disturbed	or problematic.	
	Layer (if observed):							
Type:							Herdric Coil Broscout	Van Na /
Depth (in	ches):						Hydric Soil Present?	Yes No✓
Remarks:	c soil indicator	s prese	nt.					
		о р. осо						



wasa124_u_N



wasa124_u_S

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project City	y/County: Ashland Sampling Date: 2019-10-17
Applicant/Owner: Enbridge	State: WI Sampling Point: wasd035f_w
Investigator(s): MAL/AGG Se	ction, Township, Range: 044N-002W-08
	relief (concave, convex, none): Concave Slope (%): 0-2%
	Long: <u>-90.647759</u> Datum: <u>WGS84</u>
	omplex, 0 to 18 percent slopes NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	
	turbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation, Soil, or Hydrology naturally proble	
SUMMARY OF FINDINGS – Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes✓ No	Is the Sampled Area
Hydric Soil Present? Yes _ ✓ No	within a Wetland? Yes No
Wetland Hydrology Present? Yes ✓ No	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.) Hardwood swamp associated with waterbody sa	sd020e.
HYDROLOGY Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) Water-Stained Lea	Surface Soil Cracks (B6) aves (B9) Drainage Patterns (B10)
✓ High Water Table (A2) — Aquatic Fauna (B1	
✓ Saturation (A3) Marl Deposits (B1	
✓ Water Marks (B1) Hydrogen Sulfide (
Sediment Deposits (B2) Oxidized Rhizosph	neres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduce	
1 — · · · — —	ction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface Thin Muck Surface Other (Explain in F	
Inundation Visible on Aerial Imagery (B7) Other (Explain in F Sparsely Vegetated Concave Surface (B8)	Remarks) Microtopographic Relief (D4) FAC-Neutral Test (D5)
Field Observations:	TAC-Neutral Test (D3)
Surface Water Present? Yes No ✓ Depth (inches): _	
Water Table Present? Yes _ ✓ No Depth (inches): 2	
Saturation Present? Yes ✓ No Depth (inches): 1	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, page 1.5)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	orevious inspections), if available:
Remarks:	atad with an ambamaral waterbady. Water marks
, ,	ated with an ephemeral waterbody. Water marks
observed on trees at a height of 4".	

VEGETATION – Use scientific names of plants.

Y F Y Otal Cover	Status FACW FACU FAC	Dominance Test worksheet: Number of Dominant Species 5 (A) Total Number of Dominant Species Across All Strata: 6 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33 (A/B) Prevalence Index worksheet: Multiply by: 0BL species 55 x 1 = 55 55 FACW species 25 x 2 = 50 55 FAC species 15 x 3 = 45 45 FACU species 10 x 4 = 40 UPL species 0 x 5 = 0 0 Column Totals: 105 (A) 190 (B) Prevalence Index = B/A = 1.81 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
Y F Y F Y Otal Cover	FACW FACU FAC	That Are OBL, FACW, or FAC:
Y F Y Otal Cover	FACU FAC	Total Number of Dominant Species Across All Strata:
otal Cover	FAC.	Species Across All Strata:
otal Cover	OBL	Percent of Dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 55 X 1 = 55 FACW species 25 X 2 = 50 FAC species 15 X 3 = 45 FACU species 10 X 4 = 40 UPL species 0 Column Totals: 105 (A) 190 (B) Prevalence Index = B/A = 1.81 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL	That Are OBL, FACW, or FAC:83.33(A/B) Prevalence Index worksheet:Total % Cover of:Multiply by: OBL species55x 1 =55 FACW species25x 2 =50 FAC species15x 3 =45 FACU species10x 4 =40 UPL species0x 5 =0 Column Totals:105(A)190(B) Prevalence Index = B/A =1.81 Hydrophytic Vegetation Indicators:1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL	Total % Cover of: Multiply by: OBL species 55 x 1 = 55 FACW species 25 x 2 = 50 FAC species 15 x 3 = 45 FACU species 10 x 4 = 40 UPL species 0 x 5 = 0 Column Totals: 105 (A) 190 (B) Prevalence Index = B/A = 1.81 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ∠ 2 - Dominance Test is >50% ∠ 3 - Prevalence Index is ≤3.0¹ ∠ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL	Total % Cover of: Multiply by: OBL species 55 x 1 = 55 FACW species 25 x 2 = 50 FAC species 15 x 3 = 45 FACU species 10 x 4 = 40 UPL species 0 x 5 = 0 Column Totals: 105 (A) 190 (B) Prevalence Index = B/A = 1.81 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ∠ 2 - Dominance Test is >50% ∠ 3 - Prevalence Index is ≤3.0¹ ∠ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL	OBL species
otal Cover	OBL	FACW species 25 $\times 2 = 50$ FAC species 15 $\times 3 = 45$ FACU species 10 $\times 4 = 40$ UPL species 0 $\times 5 = 0$ Column Totals: 105 (A) 190 (B) Prevalence Index = B/A = 1.81 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is $\le 3.0^1$ 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL	FAC species 15 $\times 3 = 45$ FACU species 10 $\times 4 = 40$ UPL species 0 $\times 5 = 0$ Column Totals: 105 (A) 190 (B) Prevalence Index = B/A = 1.81 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is $\le 3.0^1$ 4 - Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL	UPL species x 5 = (B) Column Totals: (A) (B) Prevalence Index = B/A = (B) Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL	Column Totals: (A) (B) Prevalence Index = B/A = 1.81 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL OBL	Prevalence Index = B/A = 1.81 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL OBL	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
otal Cover Y Y	OBL OBL	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL OBL	 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
otal Cover	OBL OBL	 ∠ 2 - Dominance Test is >50% ∠ 3 - Prevalence Index is ≤3.0¹ _ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Y (OBL OBL	3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Υ	OBL	data in Remarks or on a separate sheet)
Υ	OBL	
		Problematic Hydrophytic Vegetation (Explain)
<u>Y</u>	ADI -	
		¹ Indicators of hydric soil and wetland hydrology must
	<u>FAC</u>	be present, unless disturbed or problematic.
<u>N</u> (<u>OBL</u>	Definitions of Vegetation Strata:
		Tree – Woody plants 3 in. (7.6 cm) or more in diameter
		at breast height (DBH), regardless of height.
		Sapling/shrub – Woody plants less than 3 in. DBH
		and greater than or equal to 3.28 ft (1 m) tall.
		Herb - All herbaceous (non-woody) plants, regardless
		of size, and woody plants less than 3.28 ft tall.
		Woody vines – All woody vines greater than 3.28 ft in height.
otal Cover		neight.
		Hydrophytic
		Vegetation Present? Yes No
otal Cover	-	103 <u>v</u> 110
	otal Cover	N OBL

SOIL Sampling Point: wasd035f_w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth Matrix			Redox Features Color (moist) % Type ¹ Loc ²			12	Tandona	Demode	
(inches)	Color (moist)	400	Color (II	10151)	%	Type'	Loc ²	Texture	Remarks
0-6		100		= /0				SL	
6-12	10YR 4/2	95	<u>7.5YR</u>	5/6	5	<u> </u>	_M_	SL	
			-						
			-		·				
									Pore Lining, M=Matrix.
Hydric Soil Indicators:								oblematic Hydric Soils ³ :	
Histosol (A1) — Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) MLRA 149B)							2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R)		
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B)									Peat or Peat (S3) (LRR K, L, R)
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L)							Dark Surface (S7) (LRR K, L)		
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (I Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K,									
Thick Dark Surface (A12) Redox Dark Surface (F6)								Iron-Manganese Masses (F12) (LRR K, L, R)	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)							Piedmont Floodplain Soils (F19) (MLRA 149B)		
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5)							Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21)		
Stripped Matrix (S6)							Very Shallow Dark Surface (TF12)		
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)									
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.									
Restrictive Layer (if observed):									
Type:									
Depth (inches):								Hydric Soil Present? Yes ✓ No	
Remarks:									
Depleted matrix observed at 6 inches.									



wasd035f_w_N



wasd035f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name: Line 5 Relocation Project	Evaluator(s): MAL/AGG		
File #: wasd035	Date of visit(s): 10/17/2019		
Location: PLSS: 044N-002W-08	Ecological Landsca North Central Forest	ape:	
Lat: <u>46.30071</u> Long: <u>-90.647785</u>	Watershed: LS14 Upper Bad River		
County: Ashland Town/City/Village: Morse town			
SITE DESCRIPTION			
Soils: Mapped Type(s):	WWI Class: N/A		
5172C, Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes	Wetland Type(s): PFO - Floodplain Forest		
Field Verified:	'		
Series not verified. The soils consist of a silt loam texture.	Wetland Size: 0.10	Wetland Area Impacted 0.10	
	Vegetation: Plant Community D	Description(s):	
Hydrology: The feature is a saturated black ash floodplain.	The ground layer contains scattered sedges		
Associated with an intermittent waterbody.	with bare ground patches prominent. The tree layer is primarily black ash.		
	1		

SITE MAP		

SECTION 1: Functional Value Assessment

		ECTION 1:	Functional Value Assessment
HU	Y/N	Potential	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	N	Υ	Used for recreation (hunting, birding, hiking, etc.). List: Hunting
2	N	N	Used for educational or scientific purposes
3	N	N	Visually or physically accessible to public
4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
	- ' '	- 11	In or adjacent to RED FLAG areas
5	N	N	List:
6	N	N	Supports or provides habitat for endangered, threatened or special concern species
7	IN	111	In or adjacent to archaeological or cultural resource site
WH			Wildlife Habitat
1	N	N	Wetland and contiguous habitat >10 acres
2	Y	Y	3 or more strata present (>10% cover)
3	N	N	Within or adjacent to habitat corridor or established wildlife habitat area
4			100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N	N	
-	N	N	Occurs in a Joint Venture priority township
6	N	N	Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N	Υ	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other
			plans
8	Y	Y	Part of a large habitat block that supports area sensitive species
9	N	Y	Ephemeral pond with water present > 45 days
10	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
11	N	N	Seasonally exposed mudflats present
12	N	N	Provides habitat scarce in the area (urban, agricultural, etc.)
FA			Fish and Aquatic Life Habitat
1	N	N	Wetland is connected or contiguous with perennial stream or lake
2	N	Υ	Standing water provides habitat for amphibians and aquatic invertebrates
3	N	N	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N	Υ	Vegetation is inundated in spring
SP			Shoreline Protection
1	NA	NA	Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
			Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating
2	NA	NA	water levels or high flows – if no, not applicable
3	NA	NA	Densely rooted emergent or woody vegetation
ST			Storm and Floodwater Storage
1	Υ	Υ	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Ý	Y	Water flow through wetland is NOT channelized
3	N	N	Dense, persistent vegetation
4	N	N	Evidence of flashy hydrology
5	N	N	Point or non-point source inflow
6	N	N	Impervious surfaces cover >10% of land surface within the watershed
7	N	N	Within a watershed with <10% wetland
8	N	N N	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	IN	IN	Water Quality Protection
	N.	N.I	Provides substantial storage of storm and floodwater based on previous section
1	N	N	Basin wetland or constricted outlet
2	Υ	Υ	
3	1/	17	Water flow through wetland is NOT shannelized
1 1	Y	Y	Water flow through wetland is NOT channelized
4	N	N	Vegetated wetland associated with a lake or stream
5	N N	N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation
5 6	N N N	N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
5 6 7	N N N	N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source
5 6 7 8	N N N N	N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
5 6 7 8 9	N N N	N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
5 6 7 8	N N N N	N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water
5 6 7 8 9	N N N N	N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50%
5 6 7 8 9 GW	N N N N N	N N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present
5 6 7 8 9 GW 1 2	N N N N N N	N N N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland
5 6 7 8 9 GW 1 2 3	N N N N N N	N N N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland Wetland remains saturated for an extended time period with no additional water inputs
5 6 7 8 9 GW 1 2	N N N N N N	N N N N N N	Vegetated wetland associated with a lake or stream Dense, persistent vegetation Signs of excess nutrients, such as algae blooms, heavy macrophyte growth Stormwater or surface water from agricultural land is major hydrology source Discharge to surface water Natural land cover in 100m buffer area < 50% Groundwater Processes Springs, seeps or indicators of groundwater present Location near a groundwater divide or a headwater wetland

Lis		at and Species Observation (including amphibians and reptiles) oservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed	Potential	Species/Habitat/Comments
	Y	The wetland supports arboreal species including songbirds and squirrels.
Fis Lis	sh and Aqua st: direct ob	atic Life Habitat and Species Observations oservation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat

Section 1 Comments (Refer to Section 1 numbers)

ST-1, WQ-2: The feature is a depression along an access road. ST-3, WQ-5: Herbacous cover at roughly 40% with notable bare ground.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S47	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant 🗸	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Fraxinus nigra			PFO	Common
Betula papyrifera			PFO	Uncommon
Betula alleghaniensis			PFO	Uncommon
Myosotis cf. scorpioides			PFO	Common
Carex scabrata			PFO	Uncommon
Glyceria striata			PFO	Uncommon
Dryopteris intermedia			PFO	Rare
Carex crinita			PFO	Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Floristic integrity is low due to overall low diversity. The wetland contains sparse sedge cover and black ash within the canopy.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
					Roads or railroad
	Х		L	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
					Removal of tree or shrub strata – logging,
					unprescribed fire
	Х		M	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
X	Х		M	С	Cover of non-native and/or invasive species
					Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
	Х		L	С	Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetland is associated with an access road. There is earthworm activity within the soil as well as invasive species
cover.

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION			SIGNIFICANC	E	
	Low	Medium	High	Exceptional	NA
Floristic Integrity		√	_		
Human Use Values	√				
Wildlife Habitat	√				
Fish and Aquatic Life Habitat		✓			
Shoreline Protection					/
Flood and Stormwater Storage	√				
Water Quality Protection	√				
Groundwater Processes	√				

FUNCTION	RATIONALE
Floristic Integrity	Overall low diversity across three strata dominated by sedges and black ash. There is some invasive species cover within the herbaceous layer.
Human Use Values	Not accessible to the public or used for recreation or research.
Wildlife Habitat	The feature is rather small, linear, and contains minimal plant species.
Fish and Aquatic Life Habitat	The feature likely occasionally supports standing water.
Shoreline Protection	N/A
Flood and Stormwater Storage	The feature is capable of holding substantial quantities of water due to the size and location of the wetland.
Water Quality Protection	The feature is associated with a small ephemeral waterbody.
Groundwater Processes	The wetland is fed by precipitation and runoff primarily with no indicators of groundwater activity.

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ash	land	Sampling Date: 2019-10-17
Applicant/Owner: Enbridge		State: WI	Sampling Point: wasd035_u
Investigator(s): MAL/AGG			
Landform (hillslope, terrace, etc.): Side slope			
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.			
Soil Map Unit Name: Gogebic, very stony-Pence, very sto			
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation, Soil, or Hydrology si			
Are Vegetation, Soil, or Hydrology na			
SUMMARY OF FINDINGS – Attach site map s	howing sampling poir	nt locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Samp	pled Area	
Hydric Soil Present? Yes No		etland? Yes	No <u></u>
Wetland Hydrology Present? Yes No		nal Wetland Site ID:	
Remarks: (Explain alternative procedures here or in a sepa	arate report.)		
The sample point occurs on a slight slop	be with scattered ne	rbaceous and tree of	cover.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all the	nat apply)		
	r-Stained Leaves (B9)	Drainage Pa	
	tic Fauna (B13)	Moss Trim L	
	Deposits (B15)		Water Table (C2)
Water Marks (B1) Hydro	ogen Sulfide Odor (C1)	Crayfish Bur	rows (C8)
Sediment Deposits (B2) Oxidi	zed Rhizospheres on Living F	Roots (C3) Saturation Vi	isible on Aerial Imagery (C9)
Drift Deposits (B3) Prese	ence of Reduced Iron (C4)	Stunted or S	tressed Plants (D1)
Algal Mat or Crust (B4) Rece	nt Iron Reduction in Tilled So	ils (C6) Geomorphic	Position (D2)
Iron Deposits (B5) Thin	Muck Surface (C7)	Shallow Aqu	itard (D3)
Inundation Visible on Aerial Imagery (B7) Other	r (Explain in Remarks)	Microtopogra	aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	Test (D5)
Field Observations:			
Surface Water Present? Yes No ✓ Dep			
Water Table Present? Yes No _✓ Dep			
Saturation Present? Yes No _✓ Dep (includes capillary fringe)	th (inches):	Wetland Hydrology Preser	nt? Yes No <u>√</u>
Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous inspect	ions), if available:	
Demontos			
Remarks: No primary or secondary indicators of w	etland hydrology of	served	
The primary or december y maleutere of the	oliana nyarology ol	,001,001	
1			l l

VEGETATION – Use scientific names of plants.

VEGETATION – Use scientific names of plants.				Sampling Point: wasd035_u
Tree Stratum (Plot size: 30')	Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1. Acer saccharum	20.0	Y	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 2.0 (A)
2. <u>Betula alleghaniensis</u>3				Total Number of Dominant Species Across All Strata:
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 (A/B)
5				
7				Prevalence Index worksheet: Total % Cover of: Multiply by:
	35.0			OBL species x1 =
Sapling/Shrub Stratum (Plot size: 15')				FACW species 0.0 x 2 = 0.0
1. Ostrya virginiana	15.0	Υ	FACU	FAC species 30.0 x 3 = 90.0
2. Quercus rubra			FACU	FACU species <u>62.0</u> x 4 = <u>248.0</u>
3.				UPL species $0.0 \times 5 = 0.0$
4				Column Totals: <u>92.0</u> (A) <u>338.0</u> (B)
5				Prevalence Index = B/A = 3.7
6				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
H 1 0: (D)	<u>17.0</u> :	= Total Co	ver	3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5') 1. Adiantum pedatum	25.0	Y	FACU	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
2. Athyrium angustum	10.0	Y	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <u>Dryopteris intermedia</u>			FAC	1
4.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6.				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
	40.0	= Total Co	ver	height.
Woody Vine Stratum (Plot size:30')	1010	- rotar oo	VO 1	
1				
2				
3				Hydrophytic Vegetation
4				Present? Yes No/_
4	0.0	T		

SOIL Sampling Point: wasd035_u

Depth (inches) Matrix Color (moist) Redox Features Color (moist) Type¹ Loc² Texture Remarks 0-12 10YR 2/2 100 CL 12-18 10YR 4/3 100 CL
0-12 10YR 2/2 100 CL
<u> </u>
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Polyvalue Below Surface (S8) (LRR R, 2 cm Muck (A10) (LRR K, L, MLRA 149B)
Histic Epipedon (A2)
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L)
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L)
Depleted below Bark Guriace (A11) Bepleted Matrix (F3) Thirk Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R)
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 149B)
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Red Parent Material (F21)
Stripped Matrix (S6) Very Shallow Dark Surface (TF12)
Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Restrictive Layer (if observed):
Type:
Depth (inches): No _✓
Remarks: No hydric soil indicators observed.



wasd035_u_N



wasd035_u_W

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: Ashland Sa	ampling Date: 2019-09-28
Applicant/Owner: Enbridge		
Investigator(s): NTT/DGL	Section, Township, Range: 044N-002W-08	
Landform (hillslope, terrace, etc.): Depression		
Subregion (LRR or MLRA): Northcentral Forests Lat: 46.30		
Soil Map Unit Name: Pence sandy loam, 6 to 15 pe		
Are climatic / hydrologic conditions on the site typical for this time	•	
Are Vegetation, Soil, or Hydrology signific		
Are Vegetation, Soil, or Hydrology natura		
SUMMARY OF FINDINGS – Attach site map show	ing sampling point locations, transects, in	mportant features, etc.
Hydrophytic Vegetation Present? Yes ✓ No	Is the Sampled Area	
Hydric Soil Present? Yes ✓ No	1 1 1 1 10 10 10 1	No
Wetland Hydrology Present? Yes ✓ No		_
Remarks: (Explain alternative procedures here or in a separate	report.)	Cowardin as a
Disturbed wetland feature with a canopy of forested wetland. Not a true hardwood swa		
	inp under the Eggers and Reed system	in, but this would be
the only and best option.		
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indicator	s (minimum of two required)
Primary Indicators (minimum of one is required; check all that a	oly) Surface Soil Cra	acks (B6)
	ned Leaves (B9) Drainage Patter	
High Water Table (A2) Aquatic F		
Saturation (A3) Marl Depo		
	Sulfide Odor (C1) Crayfish Burrow	
		ole on Aerial Imagery (C9)
		ssed Plants (D1)
	Reduction in Tilled Soils (C6) Geomorphic Po	
	Surface (C7) Shallow Aquitar lain in Remarks) Microtopograph	
Sparsely Vegetated Concave Surface (B8)	✓ FAC-Neutral Te	
Field Observations:	<u>√</u> TAC-Neutral Te	31 (D3)
Surface Water Present? Yes No✓ Depth (ir	thes):	
Water Table Present? Yes No _✓ Depth (in		
Saturation Present? Yes No _✓ Depth (ir		Yes ✓ No
(includes capillary fringe)	,	
Describe Recorded Data (stream gauge, monitoring well, aerial	notos, previous inspections), if available:	
Remarks:		
Roadside depression dominated by hydrop	nytic vegetation.	

VEGETATION – Use scientific names of plants.

				Sampling Point: <u>wasa125f_w</u>
Tree Stratum (Plot size:)			t Indicator Status	Dominance Test worksheet:
1. <u>Populus tremuloides</u>	50	Y	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3		-		Species Across All Strata: (B)
4				Percent of Dominant Species
5	_			That Are OBL, FACW, or FAC: 100.00 (A/B)
6		ī		Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Co		OBL species25 x1 =25
Sapling/Shrub Stratum (Plot size: 15')				FACW species10 x 2 =20
1				FAC species <u>55</u> x 3 = <u>165</u>
2				FACU species x 4 = 8
				UPL species0 x 5 =0
3				Column Totals: <u>92</u> (A) <u>218</u> (B)
4				Prevalence Index = B/A = 2.37
5				
6				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
7		-		∠ 2 - Dominance Test is >50%
	0	= Total Co	over	✓ 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size:)				4 - Morphological Adaptations ¹ (Provide supporting
1. Calamagrostis canadensis	25	Y	OBL	data in Remarks or on a separate sheet)
2. <u>Onoclea sensibilis</u>	5	N	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3. <i>Rubus idaeus</i>	5	N	<u>FAC</u>	1 Indicators of hydric call and wattend hydrology must
4. <u>Cornus alba</u>	5	N	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. <u>Acer saccharum</u>	2	N	<u>FACU</u>	Definitions of Vegetation Strata:
6				
7				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				
9.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12		= Total Co		height.
201	4	= Total Co	over	
Woody Vine Stratum (Plot size:)				
1				Hydrophytic
2				Hydrophytic Vegetation Present? Yes No

SOIL Sampling Point: wasa125f_w

Profile Desc	cription: (Describe to	the depth n	eeded to docum	ent the in	dicator	r confirm	the absence of	of indicators.)
Depth	Matrix			Features	-	. 2		
(inches)	Color (moist)	<u> </u>	Color (moist)		Type'	Loc ²	Texture	Remarks
							·	
¹ Type: C=Co	oncentration, D=Deplet	ion, RM=Red	duced Matrix, MS	=Masked	Sand Gra	ins.		PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
Histosol Histic Ep Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy G Sandy R Stripped Dark Su Restrictive I Type:	(A1) pipedon (A2)	A11) — — — RA 149B)	Polyvalue Below MLRA 149B) Thin Dark Surfactoamy Mucky M Loamy Gleyed M Depleted Matrix Redox Dark Surfactor Depleted Dark S Redox Depression d hydrology must	ce (S9) (LI ineral (F1) fatrix (F2) (F3) face (F6) turface (F7 ons (F8)	RR R, ML (LRR K,	RA 149B) L)	2 cm Mi Coast F 5 cm Mi Dark Su Polyvali Thin Da Iron-Ma Piedmo Mesic S Red Pa Very Sh Other (E	Prairie Redox (A16) (LRR K, L, MLRA 149B) Prairie Redox (A16) (LRR K, L, R) Prairie Redox (A16) (LRR K, L, R) Prairie Redox (A16) (LRR K, L, R) Prairie Redox (RR K, L) Prairie Redox (RR K, L) Prairie Redox Surface (S8) (LRR K, L) Prairie Redox Surface (S9) (LRR K, L) Prairie Redox Surface (S9) (LRR K, L) Prairie Redox (RR K, L, R) Prairie Redox (RA L, RA
	re not sampled ils are assumed							ies within the roadside getation.



wasa125f_w_N



wasa125f_w_S

Wisconsin Department of Natural Resources Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION			
Project name:	Evaluator(s):		
Line 5 Relocation Project	NTT/DGL		
File #:	Date of visit(s):		
wasa125	09/28/2019		
Location:	Ecological Landsca	ipe:	
PLSS: <u>044N-002W-08</u>	North Central Forest		
	North Central Forest		
Lat: <u>46.3028158</u> Long: <u>-90.644204</u>	Watershed:		
-	LS14 Upper Bad River		
County: Ashland Town/City/Village: Morse town			
SITE DESCRIPTION			
Soils:	WWI Class:		
Mapped Type(s):	N/A		
215C, Pence sandy loam, 6 to 15 percent slopes	Wetland Type(s):		
, , , , , , , , , , , , , , , , , , , ,	PFO-Hardwood swamp		
Field Verified:			
Soils were not sampled due to the proximity of potential	Wetland Size:	Wetland Area Impacted	
underground utilities within the roadside ditch. Soils are	0.01	0.01	
assumed to be hydric based on landscape position and	Vegetation:		
vegetation.	Plant Community D	escription(s):	
Hydrology:	The plant community is a hardwood swamp		
The wetland is seasonally saturated with			
hydrology indicators FAC-Neutral and	located within a basin. The canopy is		
, 0,		aking aspen with a sparse	
geomorphic position being present.	ground layer of r	native species.	

SITE MAP		

SECTION 1: Functional Value Assessment

HU Y/N Potential Human Usa Values: recreation, culture, education, science, natural scenic beauty				Functional Value Assessment
2	HU	Y/N	Potential	
3	1	N	N	
N	2	Ν	Ν	Used for educational or scientific purposes
S	3	Υ	Υ	Visually or physically accessible to public
N N List:	4	N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
N N List:	_			
In or adjacent to archaeological or cultural resource site Wildlifer labitat	5	N	N	
In or adjacent to archaeological or cultural resource site Wildlifer labitat	6	N	N	
WH		- 14	IN	
1 N N Welland and contiguous habitat >10 acres 2 Y Y Y 3 or more strata present (>10% cover) 3 N N Within or adjacent to habitat corridor or established wildlife habitat area 4 Y Y 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 Y Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudifals present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Welland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Consider the construction of t				, o
2	H	NI	NI	
3				
4 Y Y 100 m buffer − natural land cover ≥50%(south) 75% (north) intact 5 N N Occurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI Ali-Bird Cons. Plan, or other plans 8 Y Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) FA FA Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Densely rooted emergent or woody vegetation Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow of is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 4 N N Potential for ensoin of the triangle of the stream of the water levels or high flows - if no, not applicable 5 N N Potential to hold > 10 min flows - if no, not applicable 9 N N Interview of the water levels or high flows - if no, not applicable 1 Y Y Basin wetland, constricted outlet, has through-flow of is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 4 N N Dense, persistent vegetation 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover > 10% of land surface within the watershed 7 N N Within a watershed with < 10% wetland 8 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event Water Quality Protection 1 N N Stormw	$\overline{}$			
5 N N Cocurs in a Joint Venture priority township 6 Y Y Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.) 7 N Y Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans 8 Y Y Part of a large habitat block that supports area sensitive species 9 N N Ephemeral pond with water present ≥ 45 days 10 N Y Standing water provides habitat for amphibians and aquatic invertebrates 11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring 5 P Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable 3 NA NA Densely rooted emergent or woody vegetation 5 Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N N Within a watershed with <10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Guality Protection 1 N N Stormwater or surface over >10% of land surface within the watershed 5 N N Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Stormwater or surface water 9 N N	$\overline{}$			
Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex.etc.) Value -				
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9				
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11 N N Seasonally exposed mudflats present 12 N N Provides habitat scarce in the area (urban, agricultural, etc.) Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Popential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 NA NA Densely rooted emergent or woody vegetation Strom and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover > 10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold > 10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N N Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Discharge to surface water 9 N N Natural land cover in 100m buffer area < 50% 6 Groundwater Processes 1 N N Location near a groundwater divide or a headwater wetland 3 N Wetland remains saturated for an extended time period with no additio		N	N	
FA	10	N	Υ	ů i
Fish and Aquatic Life Habitat 1 N N Wetland is connected or contiguous with perennial stream or lake 2 N Y Standing water provides habitat for amphibians and aquatic invertebrates 3 N N N Natural Heritage Inventory (NHI) listed aquatic species within aquatic system 4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 NA NA Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream Storm and Floodwater Storage 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with ≤10% wetland 8 N N Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event WQ Water Quality Protection 1 N N Provides substantial storage of storm and floodwater based on previous section 2 Y Y Basin wetland or constricted outlet 3 Y Y Water flow through wetland is NOT channelized 4 N N Vegetated wetland associated with a lake or stream 5 N N Dense, persistent vegetation 6 N N Dense, persistent vegetation 7 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 8 N N Dense, persistent vegetation 9 N N Dense, persistent vegetation 6 N N Signs of excess nutrients, such as algae blooms, heavy macrophyte growth 7 N N Stormwater or surface water from agricultural land is major hydrology source 8 N N Dense, persistent vegetation 9 N N Stormwater or surface water from agricultural land is major hydrology source 9 N N Natural land cover in 100m buffer area < 50% 9 Groundwater Processes 1 N N Wetland remains saturated	11	Ν	Ν	Seasonally exposed mudflats present
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3	2			
4 N Y Vegetation is inundated in spring SP Shoreline Protection 1 NA NA Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable 2 NA NA Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows - if no, not applicable 3 NA NA Densely rooted emergent or woody vegetation ST Storm and Floodwater Storage 1 Y Y Basin wetland, constricted outlet, has through-flow or is adjacent to a stream 2 Y Y Water flow through wetland is NOT channelized 3 N N Dense, persistent vegetation 4 N N Evidence of flashy hydrology 5 N N Point or non-point source inflow 6 N N Impervious surfaces cover >10% of land surface within the watershed 7 N N Within a watershed with <10% wetland	\vdash			
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NA	H	NΙΔ	NΔ	
NA		INA	INA	
ST	2	NA	NA	
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4 N N Wetland soils are organic	-			
5 N N Wetland is within a wellhead protection area				
	5	N	N	Wetland is within a wellhead protection area

Wi	Idlife Habita	at and Species Observation (including amphibians and reptiles)
	st: direct ob nter, etc.	eservation, tracks, scat, other sign; type of habitat: nesting, migratory,
Observed Y	Potential Y	Species/Habitat/Comments White-tailed deer
<u>т</u> Ү	Y	Songbirds
	Y	Frogs
		-3-
		atic Life Habitat and Species Observations
Lis	st: direct ob	servation, other sign; type of habitat: nesting, spawning, nursery areas, etc.
Observed	Potential	Species/Habitat
JN3GI VEU	i oteritial	Openies/Habitat

Section 1 Comments (Refer to Section 1 numbers)

HU3- located near a cleared ATV trail WH2- located in a hardwood swamp surrounded by mesic hardwoods.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20% ✓	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3 🗌	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

^{*}Note: separate plant communities are described independently

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of	Plant communities	Comments (Estimate of % Cover, Abundance)
Populus tremuloides			PFO	Abundant
Calamagrostis canadensis			PFO	Common
Onoclea sensibilis			PFO	Uncommon
Rubus idaeus			PFO	Uncommon
Cornus alba			PFO	Uncommon
Acer saccharum			PFO	Rare

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

The floristic integrity is mderate due to intact canopy and dominance by native species.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells,
					impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
					Agriculture – row crops
					Agriculture – hay
X	Х		Н	С	Agriculture – pasture
					Roads or railroad
Χ	Х		М	С	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
				0	Removal of herbaceous stratum – mowing,
	X		L	С	grading, earthworms, etc.
	V			0	Removal of tree or shrub strata – logging,
	X		L	С	unprescribed fire
	Х		L	С	Human trails – unpaved
					Human trails – paved
	Х		L	С	Removal of large woody debris
Х	Х		L	С	Cover of non-native and/or invasive species
	Х		L	С	Residential land use
					Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
	Х		L	С	Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

^{*} L= Low, M = Medium, H = High

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Trails are evident through the area as well as nearby buildings and debris.				

^{**}Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE							
	Low	Medium	High	Exceptional	NA			
Floristic Integrity		✓						
Human Use Values	√							
Wildlife Habitat		✓						
Fish and Aquatic Life Habitat	√							
Shoreline Protection					1			
Flood and Stormwater Storage	√							
Water Quality Protection	√							
Groundwater Processes	√							

FUNCTION	RATIONALE
Floristic Integrity	Native species dominance
Human Use Values	Located near an ATV trail
Wildlife Habitat	Part of a large block of mesic hardwood forest.
Fish and Aquatic Life Habitat	No water present in wetland.
Shoreline Protection	N/A
Flood and Stormwater Storage	Small wetland can hold some runoff from adjacent trail
Water Quality Protection	Sparse vegetation due to frequent inundation
Groundwater Processes	Serves as groundwater recharge

Section 4: Project Impact Assessment

Brief Project Description Enbridge Line 5 pipeline route analysis.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	Temporary trenching, soil storage, and backfilling.	Low
Secondary Impacts (including impacts which are indirectly attributable to the project)	Vegetation removal for construction.	Medium
Cumulative Impacts	Operational vegetation maintenance.	Low
Spatial/Habitat Integrity	Temporary construction impacts.	Medium
Rare Plant/Animal Communities/ Natural Areas	N/A	N/A

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 5 Relocation Project	City/County: As	hland	Sampling Date: 2019-09-28
•			
Investigator(s): NTT/DGL			
Landform (hillslope, terrace, etc.): Talf			
Subregion (LRR or MLRA): Northcentral Forests			
Soil Map Unit Name: Pence sandy loam,			
Are climatic / hydrologic conditions on the site typic			
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology			
SUMMARY OF FINDINGS – Attach sit	e map showing sampling po	int locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓ Is the Sar	npled Area	
	110	-	No <u></u>
		ional Wetland Site ID:	
Remarks: (Explain alternative procedures here of	or in a separate report.)		
The upland point is located on ar	i ATV trail. Sample point i	s shared with wetlar	nd wasa126f.
HYDROLOGY	_		
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required;	check all that apply)		· · · · · · · · · · · · · · · · · · ·
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim L	
Saturation (A3)	Marl Deposits (B15)	Dry-Season	Water Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Bu	rrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) Saturation \	/isible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)		Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled S		Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)		raphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutra	Il Test (D5)
Field Observations:	(Double (back as)		
	✓ Depth (inches):		
	✓ Depth (inches):	Watland Hydrology Drago	nt? Yes No √
(includes capillary fringe)	✓ Depth (inches):	wetiand Hydrology Prese	nt? res No✓
Describe Recorded Data (stream gauge, monitor	ing well, aerial photos, previous inspe	ctions), if available:	
Remarks:			
No wetland hydrology indicators	were observed.		

VEGETATION – Use scientific names of plants.

	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:30')		Species?		Number of Dominant Species
1				That Are OBL, FACW, or FAC:(A)
2				Total Number of Dominant
3				Species Across All Strata:1 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6.				Providence to decision deleter
7				Prevalence Index worksheet:
·-				Total % Cover of: Multiply by:
0 1: (0) 1 0: (0) (0) (1: ((0) (1: ((0) (1: ((0) (1: ((0) (1: ((0) (1: ((0) (1: (((((((((((((((((((((((= Total Co	vei	OBL species0 x 1 =0 FACW species0 x 2 =0
Sapling/Shrub Stratum (Plot size: 15')				FAC species x = 5
1				FACU species 60 x 4 = 240
2				UPL species
3				Column Totals: <u>75</u> (A) <u>285</u> (B)
4				
5				Prevalence Index = B/A = 3.80
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	vor	2 - Dominance Test is >50%
Harl Objections (Blat since 5)	0.0	= 10(a) 00	vei	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum (Plot size: 5') 1. Poa pratensis	50	Υ	FACU	4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
2. Rubus idaeus	4.0	N	FAC	Problematic Hydrophytic Vegetation¹ (Explain)
		N	FAC	
				¹ Indicators of hydric soil and wetland hydrology must
4. <u>Solidago canadensis</u>	_		FACU	be present, unless disturbed or problematic.
5. <u>Plantago major</u>		N	<u>FACU</u>	Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12.				Woody vines – All woody vines greater than 3.28 ft in
12.		= Total Co		height.
W. 1. V. O (D		= 10(a) C0	vei	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4				Vegetation Present? Yes No✓_
	0.0	= Total Co	ver	105 <u>105 </u> 10 <u>1</u>
Remarks: (Include photo numbers here or on a separate	sheet.)			
ATV trail dominated by turf grass and o	listurbar	nce-tole	rant spe	ecies.

Sampling Point: wasa125_u

SOIL Sampling Point: wasa125_u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth Matrix		ox Features	1 . 2	Taratana	Damada		
(inches) Color (moist)	% Color (moist)		Loc ²	Texture	Remarks		
			- —— - ——				
			- ————————————————————————————————————				
¹ Type: C=Concentration, D=Depletio	on, RM=Reduced Matrix, M	S=Masked Sand 0		² Location: PL=	Pore Lining, M=Matrix.		
Hydric Soil Indicators:	,				roblematic Hydric Soils ³ :		
Histosol (A1) — Polyvalue Below Surface (S8) (LRR R, Histic Epipedon (A2) — MLRA 149B) — Thin Dark Surface (S9) (LRR R, MLRA 149B — Loamy Mucky Mineral (F1) (LRR K, L) — Stratified Layers (A5) — Loamy Gleyed Matrix (F2) — Depleted Below Dark Surface (A11) — Depleted Matrix (F3) — Thick Dark Surface (A12) — Redox Dark Surface (F6) — Sandy Mucky Mineral (S1) — Depleted Dark Surface (F7) — Sandy Gleyed Matrix (S4) — Redox Depressions (F8) — Sandy Redox (S5) — Stripped Matrix (S6) — Dark Surface (S7) (LRR R, MLRA 149B)				2 cm Muck (A10) (LRR K, L, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Dark Surface (S7) (LRR K, L) Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)			
Restrictive Layer (if observed):	, 0,	· · · · · · · · · · · · · · · · · · ·					
Type:				Hydric Soil Prese	ent? Yes No <u>√</u>		
Remarks: Soils were not sampled of be non-hydric based on la				round utilities.	Soils are assumed to		



wasa125_u_E



wasa125_u_W